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Problems of Economics

Selected Articles from
Soviet Economics Journals in English Translation

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A Contribution to the Economic Appraisal of Land in a Socialist Society

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The Increasing Level and Changing Structure of Food Consumption in the USSR

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ECONOMIC THEORY

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I. Boiarskii:

n the Theory of Games as a Theory of Economic Behavior

Any application of mathematics in studying a particular phere of phenomena is no longer part of mathematics itelf, but is part of the science which studies the given pheomena. For this reason, mathematical applications to the ocial sciences, particularly economics, acquire traits that re peculiar to the social sciences. To think that because athematically formulated and developed arguments are mployed, a particular principle in the sphere of social ciences acquires the character of a supra-class truth, ould mean to break with the principle of partisanship (1) hich is required in social science under any form of arumentation, in the analysis of the quality of social pheomena as well as in the analysis of their quantitative relaons; the two analyses are inseparable from one another.

What has been said also applies fully to the application in conomics of the theory of games, or to be more exact, of rategic games, one of the recently elaborated new diviions of mathematics. This question deserves considerable tention because among bourgeois economists voices have een hard to the effect that the theory of games is of very pecial, key importance for the methodology of political conomy. Its role in the social sciences is being compared ith the role of geometry in physics. There is talk of a ew American school which bases its studies on the theory games as the chief methodological principle, and so on.

It is clear that if any mathematical methods are applied false and apologetic constructions, the corresponding eorems of mathematics themselves would not be invaliated thereby. What would be incorrect would be either the riginal premises of the analysis, or the interpretation of e findings, or the interpretation of the meaning of the eorems applied; not infrequently it would simply be their isleading application. No one will question the well-known ules for finding the maximum-minimum of functions of any variables only because these rules have been emoyed as a mathematical apparatus for formulating the bac principles of the marginal utility theory, or doubt the orrectness of the theory of quasi-periodic oscillations hich has found efficient application in radio and other techcal fields because it is falsely used by apologists in atmpts to explain the cyclical development of the capitalist onomy. And, if it has happened that the modern theory games which appeared in 1928 in one of the works of J. n Neumann, a splendid mathematician, (2) was taken up most immediately by representatives of the theory of arginal utility (or representatives of the econometrics hool), this does not mean that the mathematical theory of mes itself has no substance, or even that it is false.

In mathematics, not only the original concepts of number d figure have been borrowed from the real world, but the sing of all basic problems has also been dictated by man's actical activity and hence reflects one or another aspect real phenomena in nature or social life. In this respect, e theory of games is no exception. To speak abstractly, en the game itself, as such, could serve as a subject of udy. There is, as we know, the theory of chess, and so . However, the game itself could give rise to a profound d complex mathematical theory only because it contains characteristics which are of interest far beyond something people do to occupy them in their leisure hours. Games have been known from times immemorial. According to some historians, games of chance (dice) were widely current back in the world of antiquity and chess, too, goes back many centuries. How, then, is it to be explained that games (of chance) have become a subject of mathematical theory comparatively recently — it is assumed to date from the famous correspondence between Pascal and Fermat which took place exactly three centuries ago? The theory of strategic games, however, is, as has already been stated, altogether three decades old.

This cannot be attributed to the fact that there had been no adequate mathematical apparatus for this purpose. True, Laplace's analytical theory of probabilities could appear only with the existence of infinitesimal calculus, and Neumann's theory of strategic games in its generalizations requires operating with the theory of sets. But the elementary problem which served as the occasion for the correspondence between Pascal and Fermat, as well as the more simple problems of Neumann's theory (for example, games of two opponents with a zero total) may be solved in a very elementary manner. Hence, the reasons for the fact noted lie elsewhere. Games became a subject of science only when similar traits had become especially manifest in the practical activity of people. The theory of probability emerged because it reflects certain features of reality, among them, certain features of social life; and although they may be only superficial, they are nevertheless fully objective. Incidentally, fairly soon after it originated, the theory of probability began to be applied in practice in calculations relating to annuities, in the insurance business, and so on. Only an idealistic interpretation of the history of science can explain the rise of the theory of probability from the characteristics of the mind, and not from reality, from the proposition that bourgeois scientific thinking in that epoch was incapable of seeing anything and therefore turned to the theory of probability as an anchor, because in the absence of any knowledge the only thing that can be said about anything is: "either it will or will not be, either rain or snow, either yes or no." Of course, from a theoretical analysis of the phenomena of chance appearing on the surface of things to the discovery of the inner content of social relations is a vast distance. But this does not make the theory of probabilities a less objective division of mathematics than, say the infinitesimal calculus.

In the classical theory of games of chance everything depends on accident. Each possible result of the game has a certain probability, and which of these will actually happen is a question of chance only. If each result is associated with a certain gain (which may be negative too, that is, a loss), the gain, thus, turns out to be of a chance value with a certain distribution of probabilities. Let us recall that a game is "justified" if the amount paid in for the right to participate in it (the stake) equals the expectation of the gain. In such a case, by playing repeatedly the mean sum obtained will approximate the mean value of the stake paid in.

Now let us turn to strategic games, which served as the object of Neumann's theory. Let us first note that in this theory it is not a question of determining special rules which must be adhered to by a chess player (probably the most typical example of a strategic game), or one who plays dominoes, poker, and so on. Such a theory would not be an abstract mathematical theory of games in general, but a special theory of the particular game (as the theory of chess, which has existed for a long time) or a collection of theories of a number of games. What is involved here are general principles of games as such. Here, a strategic game differs from games of chance in that, facing a certain situation, the player can choose between various actions, in other words, moves. In a still more general case, such moves chosen by players are intertwined and alternate with "accidental moves," in other words, with changes in the situation of a purely accidental origin, independent of the players (such a combination, to all appearances, is especially typical of all card games).

If we were to make up a list of moves selected in advance for every possible situation in a particular game, such a list would constitute what in the theory of games is called "strategy." Obviously, the outcome of each "match" is determined, on the one hand, by exactly which of all the possible strategies was selected by each player, and, on the other hand, by the net result of the "accidental moves." Having once and for all chosen a certain strategy, a chess champion would not have to take the trouble to go to tournaments; he could simply instruct his secretary to play after supplying the latter with his strategy in the form, say, of a large card file with all possible situations and moves selected by him. Fortunately for lovers of chess, it is impossible in practice to make up such strategy cards, and in the future too they can enjoy almost without limits all of the peripetaea of this fine sport. Otherwise chess would actually have to die: for either among all strategies of the white there would be a winning strategy against any strategy of the black (let us call this "white death" chess), or in the absence of it, the white would have the strategy which under any strategy of the opponent would at least not lead to a loss (the notorious "draw death"), or there would not even be this strategy, which would mean a faultless winning strategy for the black ("black death"). Should the day come when this question is resolved, chess would lose all sense and at best become a matter of drawing lots to see which of the players is to play the white and which the black (the latter should be noted in view of what will be said later). In games in which the results of random moves are combined with moves selected by the players, drawing lots for the random moves would still make sense. It also could be reduced to one sortition, in which all these combinations are fixed at once (with the probability of each combination determined in conformity with the rules of the theory of probability, that is, the theorems of addition and multiplication).

In the theory of chance games it is already possible to note the elements of strategy if we have in view a whole series of matches and not just one. A player freely decides how many times he will play and what stakes he will place (of course, if he has the wherewithal). However, in the theory of strategic games this is no longer a complicating secondary fact; it is the deciding fact. In it, at least in appearance, random factors are removed by the fact that since there are also random moves in the game a large series of matches is assumed from the very beginning, which makes it possible to operate with mathematical expectations of winning for each strategy, as though there were no random moves. The chief thing here is the idea of the struggle between the players, the battle of strategies.

We shall illustrate this struggle by citing a very simple example. Let there be just two players. A pays B for the right to take part in the game, after which B pays A an amount the expectation of which depends on the combination of the strategies selected by them and is determined by the following "pay-off table."

		B's strategy	
		I	II
A's strategy	I	3	2
	II	0	1

Let A decide his strategy first, which immediately becomes known to B. With A then choosing I, B selects II, so as to pay 2 instead of 3. If A selects II, B will pick I, so as to pay 0 instead of 1. As B cannot do better for himself, A, by selecting I, ensures 2 for himself. This will be the "price of the game" — the payment which A will have to make in advance for participation (the game does not lose sense, as the random moves create in the outcome of each match deviations from 2 in one or the other direction The solution found corresponds to the "minimax principle" — the minimal maximum from the point of view of B's strategy, or maximal minimum for A's. The essence of the struggle is that after A has made his selection, his adversary B tries to respond so as to reduce A's advantages to the minimum, and A must foresee this.

The case examined is called a case from the "saddle point."

Now let us imagine that the pay-off table is as follows (there is no such point):

		B's strategy	
		I	II
A's strategy	I	3	1
	II	0	2

Now the result depends on who is to select first. If it is A, and he picks I, the adversary picks II (paying the minimum, that is, 1) and if A picks II, B picks I (paying 0). In view of this, A should select I (to get 1 and not 0). But if B chooses first, he will pick II, and then A must select II, which is in contradiction with what he did before, that is, with his picking I in making his first move. Therefore, if there is no regular sequence by the players and the combination of their strategies has to be determined by agreement between them (as the price in a purchase and sale transaction, which is dealt with later), then agreement is impossible in this case.

To have the game nevertheless take place, it has to be done otherwise: let the players decide their strategies secretly from one another and then tell them to a referee, who will indicate the result by combining the strategies. Incidentally, he can also be entrusted with sortition of the random moves. We have now come to the main specific principles underlying the modern theory of games. How should A act?

It would seem that he should select I so that at the worst he will get 1 and not 0. But putting himself in B's place, he can see that similar reasoning will make B select II (so that at the worst he would have to pay 2 and not 3). But then it would be better for A to select II and get 2 instead of 1. However B, by putting himself in A's place, would guess this and pick I, as a result of which A would get 0. But realizing that B has picked I, A would pick I in order to get 3. But B, too, could see this and pick II so that A would get only 1. The circle would thereby be closed, promising an endless repetition.

The theory of games answers the question thus: the system to be followed by the players consists in the absence of any system. The strategies have to be determined by lot with certain probabilities ("a statistical solution"). In the given example, A should play by lot either I or II, which offers various probabilities, and B his I or II with probabilities of 1/4 or 3/4.

Now it is easy to determine, in conformity with the theorem of multiplication, the probabilities of the combination of strategies:

	IB;1/4	IIB;3/4
IA;1/2 IIA;1/2	1/8 1/8	3/8 3/8

and to compute the expectation of the result:

$$3.1/8 + 1.3/8 + 0.1/8 + 2.3/8 = 1.5$$

But if A deviates from the rule and begins more often to resort to I, for instance (in the hope of getting the large gain 3), as soon as B notices this he will begin to apply his I strategy and A will more often get 1 than 2, in other words, less than 1.4 on the average.

What then is left of the strategy? Essentially nothing, for now all that is left to do is to turn over to the referee also the technique or sortition of A's and B's strategies or their immediate combination with the above indicated probabilities) and everything leads all over again to pure accident. The theory of strategic games has led to the elimination of strategies. Compared with games of chance here remains only this difference, that the result is deermined not only by the distribution of probabilities of accidental moves, but also by the distribution of the probabilities of the strategies. However, making use of the rules of addition and multiplication of the probabilities, it is easy o combine the distributions and reduce everything to the drawing of a single lot to determine the result. What we have, then, is that the fundamental difference between the heory of strategic games and the theory of games of chance is not so great.

Nevertheless, Neumann's theory of games has advanced us in the understanding of a number of relations and, where here are the proper initial conditions, to practical action. This may be seen best from examples in the art of war. Let us say a plane is hunting after a submarine and desroys it unerringly if on a given day it happens to be in the same area as the submarine, there being altogether two areas. If airforce headquarters notices that the submarine s in the habit of operating in A and sends a plane there, he plane will sink it. If the submarine commander notices hat the plane looks for him all the time in A, he will operate with impunity in B. If the submarine is alternately in A and B (say, on even days in A and odd days in B), this would be easy to notice and a plane could be sent unerringly to the place where the boat is. The two enemies have to pick areas precisely without any system, in other words, by lot, as the theory of games answers the question.

It is not hard to point to similar problems in the capitalist economy with its competitive struggle. Two companies are manufacturing one article of the same kind during a week and send it to London or Paris, where the market capacity equals 1. One company has decided to put its competitor out of business and has cut its price in half. However, if it ships its article at this price to London, while its competitor ships its article to the Paris market, then its strategy and expense are in vain; for the article will sell at "the cheap" price without any loss to the competitor. In such a case, where should the two companies send their commodity the following week? Reasoning simply, the aggressor company, seeing that the competitor is acting in Paris, will send its article there. But the competitor will realize that now an attempt will be made to beat it in Paris and will send its commodity to London. However, the aggressor company, placing itself in its competitor's boots, will easily guess the plan. But putting itself in the other company's place, the competitor... and so on ad infinitum. And we have the same problem going on endlessly, a problem which can be licked by the "statistical solution" of the theory of games.

Now the idea of what struggle has served as the source of inspiration for the authors of the theory of games can be seen clearly. In the past, it took quite a lot of time from the first results obtained by Pascal and Fermat until the interpretations of the theory of probability appeared as the main key to understanding all reality and especially that of social life. Everything is accomplished more rapidly in our century. In his first article on the theory of games, Neumann spoke of card games, and so on, and only in a brief footnote he remarked that the same holds true for the behavior of "homo economicus" — a thoroughly egoistical and ideally clever business fellow. But this was promptly caught up by bourgeois political economy. The principal work on the theory of games appeared in the name of two authors: the mathematician Neumann was joined by the economist Morgenstern (3) and the theory of games became a theory of economic behavior. In it the authors stressed above all that the chief thing in their discovery was the abandonment of the Robinson Crusoe concept, and the substitution for it of the idea of struggle.

Competition existed in Pascal's days too and all through the history of pre-monopoly capitalism. But it took the extreme intensification characteristic of the epoch of monopolies, which have applied complex strategic plans in it, before it could find expression in the development of a whole new division of mathematics. In the Neumann-Morgenstern theory the struggle of one against all — bellum omnia contra omnes — is but its first part. The chief content is found in the second part, in which the coalitions emerging in the game are examined. The importance of this stage is underlined by the authors themselves in pointing out that the "real" theory of games begins only where there are four or more players, as only in such a case does it appear possible that none of the players will play outside a coalition. In passing on to the second part, the reader has the feeling of having turned over a page in a book on economic history separating the 19th century from the 20th.

The idea of coalitions in the theory of games finds its consistent development all the way to the inevitable formation of two all-embracing alliances of players, to the struggle between them which all this comes to. It is quite like the far more terrible game between the capitalist alliances in the early part of our century. Everything in the world happens in conformity with its laws, and now we understand not only why games of chance had to wait thousands of years for their theory, but also why strategic games had to wait another three centuries, in addition.

However, something else served as the immediate reason for the theory of games being taken up by economists. The subjective school in political economy, whose views make up the theoretical basis of so-called econometrics, (4) found in the theory of games a way out of a difficulty which until then had appeared insurmountable. The difficulty may best be seen by posing the question dynamically. As we know, the chief aim of political economy as interpreted by the bourgeoisie is to find the point of equilibrium between demand and supply, which is determined by the price curves on which both depend. If supply is unlimited, then the question is reduced to the functional relation between price and demand. Let us take a seasonal commodity, say fuel. The seller knows that demand will rise in winter and he therefore contemplates raising the price in winter. But as the consumer too knows this, he will decide to lay in fuel in summer, when it is cheaper (if he has the money for the purpose). But then the seller, guessing as much, will raise the price of coal in summer. And the consumer will then plan to lay in his fuel in winter, and so on, in the pattern we have indicated before. For mathematics, the seller and consumer are like the plane and submarine, and winter and summer are the two possible areas of their operation.

Seeing in the theory of games a way out of the situation, bourgeois political economy promptly tried to make it its main key to an understanding of all economic activity, and this theory eecame an integral part of econometrics (which had developed precisely in the attempts to solve the above-mentioned problem by means of mathematics). And it is perfectly logical that the herald of the theory of games as the basis for the theory of economic behavior should be the Austrian (later American) economist Morgenstern, a prominent champion of the theory of marginal utility; earlier, however, he had underscored exactly the difficulty of this theory which was noted above.

A usual idealistic hypertrophy occurred with the theory of games in this respect. We have seen that the capitalist economy really has features that are reflected in the theory, but they are not the main thing. While the competitive struggle is inherent in capitalism, the main thing in it is not this struggle but exploitation, and unless we understand this we cannot understand the actual role played by competition. However, the bourgeois mind exaggerates this feature of the capitalist economy, making it the basic thing, as we shall see later, and with no innocent design at that.

As soon as the bourgeois economists picked up the theory of games, it became in the eyes of many of them the chief foundation of methodology. "What is our life? Just a game" — they started echoing Herman from "The Queen of Spades." Homo economicus is a rational egoist, a character in the economic game, and his actions in their entirety constitute his strategy. And the gain consists of the total goods he receives at his disposal. True, this made it necessary to enrich economic theory with a new hypothesis, namely, that the "perspective" of getting either A, or B with certain probabilities, was better than simply getting B, provided the utility of A is greater than that of B (and then this perspective can, as laid down by the theory of games, be mathematically estimated by expectation). Any business executive who prizes certainty so much can explain how far such a hypothesis is from reality (a factory, for example, will prefer to be prepared to use somewhat poorer raw material than not to know what raw material it will be able to get, and so on). But without this hypothesis all social life could not be represented as a game in which a "perspective" with varying possible results is bought by putting up the stake.

A number of other great difficulties could be mentioned in this matter, and among them are, of course, those which have long been sapping the whole structure of the subjective school. Thus, the basic premise, patent or hidden, is the hypothesis of the "transitiveness" (in the language of mathematical theory) of the many goods — gains. What we mean is that from the condition that "good A is better than good B and good B is better than C," there should follow the indisputable deduction that "good A is better than good C," but it is exactly this which cannot be proved if we stick to the principles of the subjective school. We have to accept this proposition without proof, for otherwise we cannot apply the theory of games to goods — gains.

Among the difficulties there are specific ones inherent in the treatment of the economy in the light of the theory of games, and to surmount them we have to run the risk of coming up against serious contradictions with the old theory (which is called here the "classical" theory). In particular, it has to be admitted that there is a single, universal scale of utilities, without which the whole conception falls to the ground. For the subjective school the whol explanation for the exchange and everything following from it lies essentially in that one and the same good is valued differently by the parties. According to the basic principles of this school, without this differing evaluation there could be no exchange. Yet for the theory of games there must be one definite "pay-off table." For if we allow for the possibility in our table that by combining the first two strategies, gain 3 for A would be figured by B not as a loss of 3, but, say, 1, it would be impossible to solve the problem of strategy selection in conformity with the rules of the theory of games. Neumann's and Morgenstern's attempt at the end of the book to get out of this difficulty by introducing an amendment to Bohm-Bawerk's model in the relationship under examination gives us nothing. As a result, the interpretation of the economy as a game inevitably proves to be in contradiction with their own original principle.

But even more important is what relates to the peculiarities of the mathematical theory of games itself as a general theory. Because of its very mathematical generalization the theory of games cannot justify the great hopes placed in it. For this it is quite insufficient that certain superficial features of the capitalist economy should be reflected in it better (or in a more modern way) than in the classical theory. No extensive proof is needed to show tha exactly nothing can be understood in social life if what is most important is ignored: the social structure. Yet this is precisely what the theory of games lacks: the laws governing the social structure do not apply to it, but to the rules of the given, concrete "game." The life of society and the interaction of the individuals in it are treated in the theory of games without regard to time and space, the same as this theory reasons in a game of chess, without the need of knowing how many squares there are on the board. Armed only with this abstract theory a chessplayer would lose the game in the very first minutes of play. And so will the economist fail who attempts to be guided by it as the basis of his methodology.

It is easy to see that here we have a manifestation of the usual desire of bourgeois science to find the key to understanding the economy without discovering its inner content namely, social relations.

To this should be added a number of other more particular considerations.

Even those phenomena which it would seem are best covered by the theory of games fail to obey its rules. Let us take an example in which the very use of the words — playing the stock market — indicates maximum resemblance. A capitalist tycoon, playing bear, at the crucial moment throws on the market a block of securities. But the moment is not picked by lot, as is demanded by the theory of games, but by taking into account the concrete facts: the adversary's resources, the psychology of the mass of small holders of securities, how strong are the nerves of those and others, and so on. To be able to speak of the application of the theory of games the adversaries must have had the possibility of observing each other's actions in similar situations very many times. In the economy, however, situations do not repeat themselves, particularly in the "battles" in the stock market. Besides, the minimax principle does not reflect the behavior of the tycoons who set the tone; it is rather the rule of behavior of the dying-out (if not extinct) type of holders who, like Timothy Forsyte, prefer a low interest rate provided the securities are "safe."

What is even more important is that production, the chief basis of economic life, fits very poorly into the theory of games. Apparently on this point the Marxist interpretation of production as the struggle of society against nature is accepted, which even makes it possible to picture some of the simplest production problems in the terminology of the theory of games. Thus, let us take our first example of the two strategies and have B serve as the choice between the two farm crops, and let the figures in the table be the results obtained in each of two possible versions of the meteorological situation. If the crop will not keep and if a semi-starvation existence requires the minimum result 1, the producer will prefer the other crop, for even though it will not yield 3, it will in a bad year (the second strategy A, the role taken by nature, so to speak) nevertheless guarantee 1, while if the first crop is chosen it may mean death from starvation. In this situation the producer would seem to act as in a game, in conformity with the minimax principle.

Here, however, we do not yet have the specific feature of the theory of games; there is no situation leading to a "statistical solution." Like the example with the figures in accordance with the second of the "pay-off" tables cited above, a year favorable for the first crop is bad for the second, and vice versa. But nature is not a conscious adversary who has to be baffled by sortition in order to conceal one's system of playing; nature does not select its strategy by taking the producer's strategy into account so as to reduce his efforts to the minimum. For this reason, there will be no statistical solution anyhow, and in our example the same second crop is chosen. f the product will keep until the following year, both crops can be estimated simply in accordance with the average result, taking into consideration how often each of the meeorological situations occurs. Consequently, here we have o operate with probabilities and a mathematical expectaion, but not at all as they are operated with in the theory of games. In this case, too, the solution will be simply to pick the crop which promises a result of greater mathematical expectation, and it will have no statistical character whatever. To picture the matter otherwise you would have o endow nature with conscousness, and one inimical to man at that, as will be found with respect to Shat Mountain in Lermontov's famous poetic legend. Incidentally, even there nothing came of the attempt to incite Kasbek Mountain to oin in a coalition against man.

Here a widely current misunderstanding should be mentioned. As we know, the mathematical expectation of a result where its possible values are given (in the same table of pay-off payments, for instance) depends on the linear probabilities of the individual values, in other words, it can be regarded as their linear function. Obviously, in determining our "strategy" in production — in our example, the selection of the crops — we seek a condition which would maximize the value of this linear function, the sum total of the factors of which is connected with a number of additional conditions. The maximum mathematical expectation of the gain as the linear function of the probabilities of its possible values, too, is sought in the theory of games. This likeness to a purely mathematical problem gives rise to a certain resemblance to the mathematical apparatus employed for its solution. In the given case this apparatus is "linear programming," and there can be no doubt of the importance of its methods in solving a number of problems arising in the planning of production. This was why every problem to be solved with the aid of linear programming methods was referred to the theory of games. Nominally, of course, in the theory of games, too, one of the adversaries may be endowed with the possibility of making only "accidental moves" and deprived of the possibility of "choosing." But it is easy to see that such a "game" is no longer a game in the sense of the Neumann-Morgenstern theory. At any rate, it lacks the chief thing deliberately put in the forefront by the authors themselves, namely, the struggle of strategies of two adversaries, that is, exactly the new element which their interpretation of the economy has introduced in contrast to the Robinson Crusoe concept rejected by them. For the struggle with nature is shown vividly enough in the activities of Robinson Crusoe.

If it is true that the theory of games has given further strong impetus to the development of linear programming, then essentially the problems to be solved with its aid can no more be attributed to it than to any other mathematical problem in general, because in it, as in the theory of games, the four rules of arithmetic find application.

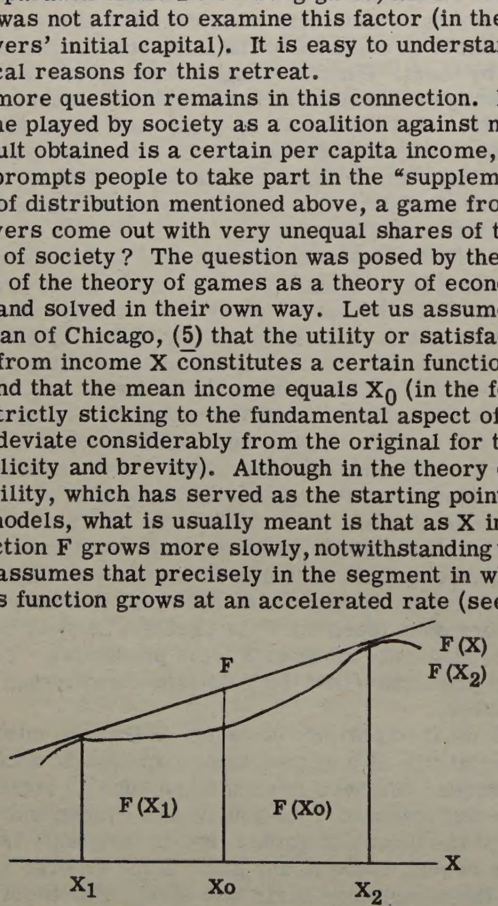
Resembling the original even less in the game representing production is the second partner — society. In the Neumann-Morgenstern exposition society makes up a single coalition from which all contradictions have disappeared, and the coalition's total gain has to be divided equally, as among brothers. Here we again encounter, in another form and for another reason, per capita average income without differentiating between classes, a favorite index of bourgeois statistics, the apologetic purpose of which requires no elucidation. It is only by way of a concession to economic reality that the authors admit that the coalition's common game against nature is followed by another game among the players to determine each player's share. Thus, if the theory does touch upon the problem of distribution of income, it zealously isolates it from production. Yet it is exactly in production that the relations determining distribution appear.

What is most important, however, is that the interpretation of social life as a game leads to apologetic sociological inferences. We have in mind here such an acute problem as social inequality, its source and consequences. In the light of the theory of games, social inequality is an inevitable result, since in any game some emerge as winners and the others lose their last shirt. The theory of games holds that success depends on the possession of information (in society, read education), on the ability to draw the proper conclusions from it (in society, read talent), and finally, on chance: the combination of the adversaries' strategies drawn by lot and accidental moves.

In society, the latter means that for all the talent and education there still has to be some "luck," without which even the most talented and educated perish, as can often be observed in the capitalist world, in fact so often that a theory which failed to leave room for the possibility of such things happening would be in crying contradiction with the facts. To make up for this, "before the game" everybody has every possibility of winning and full liberty to play or not to play. If some of the "players" are to be doomed to all of the burdens of poverty, then what is there to do — "let the unlucky wretch weep!" But let him curse his fate and not the social system. Nominally, capitalism grants the proletarian the right not to hire himself out to the owner of means of production and die from starvation — if you don't want to, don't play.

This point reveals that in the modern theory of games a highly important link is missing. The theory fixed the "price" for the different games, that is, how much one has to pay for the right to participate in them in one or another capacity. But one must have the wherewithal to pay. Besides education, talent and "luck" (information, the proper selection of strategy, and good luck in the accidental moves) one must also have another "trifle," namely, property. Yet in the theory of games this is not taken into account as an important factor in success. We have to do justice to the old theory of games of chance: in a number of problems (for instance, on playing until one of the opposing players goes completely broke, in some of the attempts to solve the famous paradox of the Petersburg game, and so on) the old theory was not afraid to examine this factor (in the form of the players' initial capital). It is easy to understand the historical reasons for this retreat.

One more question remains in this connection. If, after the game played by society as a coalition against nature the result obtained is a certain per capita income, what is it that prompts people to take part in the "supplementary game" of distribution mentioned above, a game from which the players come out with very unequal shares of the total income of society? The question was posed by the supporters of the theory of games as a theory of economic behavior and solved in their own way. Let us assume, says Friedman of Chicago, (5) that the utility or satisfaction gained from income X constitutes a certain function of it, F(X), and that the mean income equals X_0 (in the following, while strictly sticking to the fundamental aspect of the matter we deviate considerably from the original for the sake of simplicity and brevity). Although in the theory of marginal utility, which has served as the starting point in all these models, what is usually meant is that as X increases the function F grows more slowly, notwithstanding this the author assumes that precisely in the segment in which X_0 lies this function grows at an accelerated rate (see figure).



Let us leave this gross infraction of the canons of the theory of marginal utility to the conscience of the author, the more so, as is well known, because the agents of the capitalist economy do not seek ephemeral "satisfaction" from the income, but the far more real thing — the maximum possible income itself. Let us further assume that each individual can either be satisfied with getting his X_0, or demand in exchange a "perspective" with different possibilities, in other words, hurry with his X_0 to the gambling house to participate in the above-mentioned supplementary game. For the sake of simplicity let us assume that the prospects he can buy there consist of two possible income values, X_1 and X_2 (with probabilities P_1 and P_2). In return for X_0, which he renounced for the sak of this game, society can offer him only a prospect with a mathematical expectation equal to X_0, in other words, $P_1X_1+P_2X_2=X_0$. The individual himself, however, estimates the perspective offered him in conformity with the expectation of utility and not the income itself, in other words, $P_1.F(X_1)+P_2.F(X_2)$. There now remains to be determined the maximum of this amount, with X_0 given, in order to determine the values of X_1 and X_2 which, with the respective probabilities, make up the perspective chosen by the individual. If F at first increases at a declining rate and then at an increasing rate (and X_0 lies in this segment), and then again increases at a declining rate, these X_1 and X_2 values will be the abscissa of the points of contact of a straight line at two points of the tangential line F. (6) Here, the probabilities P_1 and P_2 should be in the ratio of $(X_2-X_0) : (X_0-X_1)$ as forces applied at the two ends of the segment with a given position of the center of gravity. Hence, the more the larger possible result of X_2 exceeds the mean income X_0, the less should be its probability.

Thus, if each exchanges income X_0, which he received under the "fraternal" division, for the perspective with th indicated probabilities of income X_1 or income X_2, each r tains the mathematical expectation of an income equal to the same X_0. Since many people participate in all this, the mean income they realize will be equal to their mathematical expectation, in other words, the very same X_0. However, as bourgeois economists who use theoretical arguments to justify universal egoism and inequality love to underscore, this in itself gives everybody satisfaction from the very process of playing the game. For, as we know, there are people who take all their savings to a gambling house though they know in advance that the game there is "not fair," that is, that the mathematical expectation of a gain is less than the stake. However, what make the game attractive to them is that each hopes to be one o the few fortunate ones who will be lucky at the expense of the others. In this part the model we are examining has not yet introduced anything new. What is new in it is that, in the conditions set forth, the judgment is not formed on the basis of the size of the income but on the basis of the magnitude of the "satisfaction" to be derived from it. Where the income is X_0 it is equal to F (X_0), but where th income is replaced by its mathematical expectation, the satisfaction from it is correspondingly replaced by the mathematical expectation F. The latter, however, as may be well seen from the figure, is greater than F (X_0) (sinc the mathematical expectation we obtain is the mean of F (X_1) and F (X_2) with the very same probabilities as the weights). Consequently, the apologists argue, by exchanging his mean income for the perspective, not only does the individual obtain the satisfaction derived from playing the game and the hope of a particularly good chanc but he also simply adds to the expected satisfaction. On the whole, however, for the individual in the aggregate the mean satisfaction will be equal to its mathematical expectation, and since the latter is greater than the satisfaction from the mean income, it means that society as a whole will be the gainer. It follows that the supplementary gam is of advantage because it allows picking a perspective under which the expectation of utility is greater than the utility of the expectation (i.e., X_0). The difference is a direct gain for each player and, on the average, for society.

This gain, however, exists for all only before the game is played. After the game, a small portion of the players get a "big chunk" equal to X_2, while the majority have to be satisfied with X_1, that is, an income that is far less than the mean. The mean income now appears as the mathematical expectation which existed for all, and the inequality arose from the general striving for maximum advantage, for maximum utility. The supplementary game tempted everybody because of the peculiarities of the income utility curve, peculiarities moreover arbitrarily invented.

Such is the source of social inequality in the light of the theory of games. But its consequence is maximum social happiness: since the mean value of the satisfaction should coincide with its mathematical expectation, it is exactly this situation which is most desirable for society as a whole. At the Paris seminar where Friedman read his paper some participants, while congratulating him on his discovery, did not stint their praise of the social system which affords everybody the opportunity of playing such varied and fascinating games.

Of interest, too, is this detail of the pattern being examined. While at the start there are diverse groups in society with different given mean incomes X_0', X_0'', and so on, all individuals in each group just the same select perspectives with the very same X_1 and X_2 (but in accordance with different probabilities). As a result, under the rule of full probability, the total number of recipients of X_1 and X_2 will turn out to be the same as if we proceed from the general mean income for all groups combined. The sense of this detail is that class divisions mean nothing, and that the clue to the solution of the riddle of inequality and the explanation for the numerical relation of rich and poor lies in the theory of games and not in the theory of classes.

We could also dwell on a number of other details, but what has been stated is enough to see wherein lies the unscientific and apologetic character of the theory of games as a theory of economic behavior, as the key to an understanding of social life as a whole. Is this the fault of mathematics? Of course not. We have no intention of completely rejecting the modern mathematical theory of games, which contains a number of interesting principles helping to orient us in appropriate situations. Above all we cannot deny the importance which this theory may have in solving certain problems in the military sphere, and this itself is of no little importance. It may also have applications in a number of other spheres and be helpful to a certain extent in analyzing some economic questions. But there is no ground whatever for the far from innocent attempts to make the theory of games the basis of the methodology of the social sciences. The fate of the theory of games is instructive in this respect. The mathematician Neumann, who is famous for a number of excellent works on the theory of diffusion and other works, allowed himself to make a careless remark in a footnote about homo economicus. This was enough for his theory of games, which certainly is notable for being well-knit and elegant, to be used as a weapon by the apologists, and for him to become their scientific prisoner to a certain extent. And now considerable efforts will have to be spent to free this theory from its apologetic use by the economists of the subjective school. Would it not have been better, instead of the above-mentioned carelessness, to underscore at the very outset the very limited sphere of its application?

The general methodological principles underlying the science of economics are not the sphere in which the ideas of the theory of games can be applied. This does not mean that they cannot be applied in the solution of particular problems, economic problems among them. Clarity is important in this question too, in order to extend the application of the mathematical apparatus employed in the theory of games (but which is not indissolubly bound with it), above all in linear programming, which need not necessarily be viewed through the eye of the theory of games. It has been shown that it can produce a considerable economic effect in determining an optimal transportation plan, an optimal version of cooperation by factories, distribution of tasks, location of industry and in solving a number of other problems. Especially broad prospects have been opened here in combination with the use of electronic computing machines. This makes it all the more important that economists shall work out a correct Marxian economic-theoretical basis for its application. Practical experiments are being carried on in this direction by the economics faculty of Moscow University, and the results may be announced to the readers in the very near future.

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Footnotes

(1) Translator's note: partiinost'.

(2) J. von Neumann, "Zur Theorie der Gesellschaftsspielen," Mathematische Annalen, V. 100, 3, 1928.

(3) J. von Neumann and O. Morgenstern, Theory of Games and Economic Behavior, Princeton, 1947. While the first edition appeared in 1943, the role of the theory of games as the key to economics was pointed out by E. Borel as early as 1938, who suggested this thought back in 1921 in other words, before Neumann's work published in 1928 (see M. Fréchet, Les mathématiques et le concret, Paris, 1955, p. 259).

(4) The ideas of this school deserve special examination, but we have not set ourselves this task in this article.

(5) "La théorie de l'incertitude et la distribution des revenus suivant leur grandeur," and the debate on this paper in Econometrie, Paris, 1953.

(6) The relative maximum rule leads to $F'(X_1)$ $F'(X_2)$. If, however, F increases simply rapidly, than X_1 equals 0 (the risk of losing all!), and X_2 is altogether unlimited. If the growth of F slows down or is uniform, the problem loses all sense.

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I. K. Smirnov:

A Contribution to the Economic Appraisal of Land in a Socialist Society

The grandiose program for the Seven-Year Plan of development of the economy of the USSR from 1959 to 1965, elaborated by the Communist Party of the Soviet Union with the active participation of the entire Soviet people, envisages intensive employment of rich resources of land in all districts of the country and a markedly improved utilization of land as the basic means of production in agriculture.

In this connection, the question of the economic appraisal of land, from the point of view of its most rational utilization in the national economy, today acquires major theoretical and practical significance.

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The objective necessity for an evaluation of land in a socialist society is due to the role and position that land occupies in the process of production. Marxist political economy has demonstrated that in the process of labor land appears as a general object of labor and as a general means of labor, i.e., as a necessary condition for material production in general.

However, every process of production is a social process. And whereas the need for an appriasal of land stems from its role and place in the process of production regardless of its specific social form, the objectives pursued by economic appraisal of land, its essence as an economic category, and its forms are determined by the relationships of production dominant in a given society.

Under the conditions of capitalism, land, along with all the other means of production, is an object of private property. With the development of capitalism, land, as a condition of production, is ever increasingly separated from land ownership and the land owner. Landed property finds its economic realization in land rent, and the legal title held by the land owner grants him the right to receive such rent. The land owner is thus interested in the land primarily not as a factor in production but as a condition for obtaining land rent, and therefore he reduces the economic appraisal of land to an appraisal of the income it will yield and this finds its expression in the capitalization of land rent, that is, in the price of land. A portion of nature, the land, which in itself has no value, and consequently should have no price as a monetary expression of value, enters into commodity circulation under the conditions of capitalism, is bought and sold freely in the same fashion as any commodity and, like a commodity, it has a price.

Under the conditions of socialist society, the economic foundation of which is socialist property in the means of production, land loses its form as a commodity, and has no price. However, although the commodity land, and the price of land, as irrational categories created by capitalist production relationships and not corresponding to their content, disappear along with the elimination of the economic conditions that gave rise to them, land continues to remain a most important material condition for production under the conditions of socialism. Economic appraisal of land in a socialist society is an appraisal not of land as commodit but of land as a most important condition of production, with the objective of intensive and planned utilization of th rich land resources of the country in the interests of all th members of society. Thus, in terms of objectives, content and form, the economic appraisal of land under the conditions of socialist society is fundamentally different from the economic appraisal of land under capitalism.

The role of land in the process of production differs depending upon the branch of production in which it is employed.

In agriculture, land is an active element in production and one in which it itself, jointly with other means of labor acts as an instrument of production. In the manufacturing industries and in construction, land appears as a necessar condition for production (the use of land area for the erection of buildings, structures, means of communication and transportation, etc.). In the extractive industries land is a reservoir of use values and a treasury of useful minerals. In view of this, the specific problems involved in the economic evaluation of land in a socialist society and the concrete methods for carrying out this evaluation vary in accordance with the economic utilization of the land.

In agricultural production, at each given moment of utilization, the land acts as an object of the labor of the farmer and as an instrument of labor, with the aid of whic he produces agricultural products, i.e., as a means of production. The major objective that is served by an econom appraisal of agricultural land in socialist society is that o determining the economic value of land as a basic means of production in agriculture from the point of view of the relative economic productivity of soils, and the efficiency with which lands of differing qualities are cultivated in the various natural and economic zones of the country.

The existence of the state system of land accounting in t USSR, despite its indubitable necessity and importance, does not provide a solution of this problem, as its specific purpose is that of providing a quantitative and qualitative description of the land primarily as an object of socialist property, and it establishes control over proper utilizatio of state lands. Equally, the problem of economic apprais of land is also not solved in our country by the soil studie we carry out on a large scale, as the basis for the classification of lands in this connection is not an economic index but an index of the natural properties of the soil.

Agriculture employs the uppermost layer of the land, th soil, and its most important property, fertility. Therefor the economic characterization of land as the major means of production in agriculture has to take as its point of departure the characterization of the fertility of the soil as an economic category. A distinction is made between natural and artificial soil fertility, between potential and actu fertility, between absolute and relative fertility. The natural fertility of the soil comes into being as the result of the manifestation of solely natural factors in soil formati

From the time that the soil becomes an object of human labor, the natural processes of soil formation acquire, to an ever greater degree, the nature of artificial properties directed and controlled by man. As a result, a new artificial soil fertility appears, the existence of which reflects the labor of many generations of tillers of the soil. Both the natural and the artificial fertility created by human labor in the process of many centuries of exploitation of the land constitute, in their unity, potential fertility, which appears as an objective property of the land in each given period. The potential fertility becomes actual fertility or effective fertility only at the instant when the land is employed by man as the basic means of production in agriculture for the purposes of cultivation of agricultural products, and expresses the capacity of the soil to directly meet all the nutritious substances required by a plant for its life and development. The actual fertility of the soil, describable in terms of harvest yield per unit of land area regardless of the expenditures of living and embodied labor, is termed its absolute fertility, and, when expenditures of labor are considered, its relative fertility. The actual relative fertility of the soil finds concrete expression in what is called its economic fertility, the level of which is expressed in the productivity of a unit of land area with consideration of the socially necessary expenditures of past and living labor per unit of output, and is characterized by the degree of productivity of agricultural labor. The natural or potential fertility of the soil, as was indicated by Karl Marx, constitutes one limit, one base for the productive power of agricultural labor, the other base being the development of the social productive power of labor, the development of the productive forces of society. "Therefore, although fertility is an objective property of the soil," Karl Marx wrote, "economically it always assumes a certain relationship — a relationship to the existing level of development of agricultural chemistry and mechanics, and it therefore varies with this level of development." (1)

The economic fertility of the soil is also most intimately related to the relationships of production dominant in society and, as an economic category, must be examined in connection with the operation both of general and specific economic laws. In exposing the lying concoctions of bourgeois economists who lamented the lack of fertile lands in Russia, V. I. Lenin pointed out that our country possesses an enormous supply of land. "This land is today largely unsuitable," wrote V. I. Lenin, "not so much because of the natural properties of various marginal lands as because of the social characteristics of farming in old Russia, characteristics that condemned techniques to stagnation, the population to lack of rights, oppression, ignorance, and helplessness." (2)

The object of investigation in the economic evaluation of land employed in agricultural production cannot be the natural fertility of the soil. Efforts made by various investigators to establish a functional relationship between the natural properties of the soil and its actual productivity have not yielded any satisfactory results, nor could they have done so, as the natural potential fertility of the soil can only find concrete expression in its economic fertility. The level of economic fertility depends largely upon the activity of the land user in the sense of organization and management. This activity is not limited only to direct influence upon the soil, but includes the entire complex of measures for affecting the entire medium that governs the growth and development of plants.

In order to provide an objective economic appraisal of land, the object of evaluation should be the economic fertility of the soil attained under average conditions of land utilization. By average conditions we do not mean some arithmetic mean of the actual level of land utilization in the advanced and backward agricultural enterprises, but a level of performance in agriculture that can be objectively and everywhere attained by the current development of science and productive forces, and also by the advantages of the socialist system of agriculture. This includes the all-round mechanization of agricultural labor, the rational utilization of machinery, a proper system of cultivation of the soil, a strict adherence to the schedules for carrying out the various farming operations, the introduction and mastery of correct soil rotation, well-organized seeding operations, proper care for the plantings, a system of utilizing fertilizers, etc. The level of economic fertility thus determined may differ from the actual fertility in either direction, but this is of no significance in terms of solving the problems involved in the economic appraisal of land. In the given instance, we are interested not in absolute indices, but in the relative value of lands differing in fertility although the conditions under which they are farmed are identical. We disregard differences in labor productivity due to additional successive capital investments in the land which also rest upon objective natural soil conditions, but we will not be gravely in error if we regard these differences in labor productivity as the result only of an artificially increased differential soil utility, i.e., as a consequence of the utilization of the land in farming operations.

In addition to selecting the object of economic appraisal of land, it is exceedingly important to determine the criterion or index used. A number of economists deem it necessary to employ an indicator expressed in kind. Thus, S. Foteev writes: "It is necessary to take as the point of departure the gross production of basic types of products per hundred hectares of arable land in the various natural economic zones of the country, with approximately identical outlays of labor, levels of mechanization, and agricultural techniques." (3) Theoretically, this proposition cannot be objected to, but in practice it is hardly applicable. It is not possible to express in natural units the results of the economic activity of an agricultural enterprise as a whole. In view of the variety of products raised, the use of such an index results in lack of comparability of the productivity of the land. It is obvious that a monetary indicator has to be used as the criterion of the economic value of land. If the level of economic fertility of the soil is characterized by the level of labor productivity applied to land areas differing in their quality, then this difference, with identical labor outlays per unit of area, appears as a difference in the quantity of the resulting products. Inasmuch as the product of agricultural labor takes the form of a commodity under the conditions of socialist society, therefore, given uniform state wholesale prices for agricultural products, this difference in the quantity of the goods produced takes the form of a difference in the amount of net income obtained per unit of land area. Consequently, the volume of net income per unit of land area will be the criterion for the economic evaluation of the land. The natural indicator characterizing the yield of gross production of the major crop per unit of land area has to be employed as a supplementary index, primarily for planning purposes.

The tentative method developed by the All-Union Scientific Research Institute for Agricultural Economists and suggested by S. D. Cheremushkin may be employed as a practical foundation for the organization of efforts to develop an economic appraisal of agricultural land. (4)

In view of the lack of necessary financial and economic accounting data for a number of years in the collective farms, this method suggests that, to start with, the data of government seed-testing stations which are spread extensively over virtually all types of soils in the most widely varying natural and economic regions of the USSR be used as a basis.

The ultimate results of an economic appraisal of land appear in a hundred-point scale of evaluation broken down by natural zones and provinces with the governmental districts indicated. Under this scale, the soils are groupe genetically. Depending upon the magnitude of the net income per unit of area, and the size of the harvest of the principal crop relative to the standard soil, the soil undergoing appraisal is given a point score. The appraisal scal in the plan for a single region may be depicted as follows (see Table 1):

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Table 1

Zones	Soils	Grain Harvest (centners per hectare)	Net Income (rubles per hectare)	Point Score
Northern Forest-Steppe	A	20	500	100
	B	14	350	70
	C	10	250	50
Southern Low-land Steppe	D	13	325	65
	E	8	200	40

Inasmuch as differential rent I for fertility and differential rent II are directly connected with the differential soil fertility of the various tracts of land, they are reflected in the relative indices of the appraisal scale. The situation differs somewhat with respect to differential rent I pertaining to location. Differential rent for location is not related directly to the fertility of the soil, and the location of the tract does not influence the yield of the crop per unit of land area. However, in terms of distance from markets the location of the land does influence the income it yields, as the producers have to meet additional costs for the transportation of their products. This increases their cost at the point of marketing and consequently reduces the net income per unit of area. This increase in the cost of agricultural produce is due to the continuation of the process of production in the sphere of circulation, where land is no longer a means of production, but the continuation of the process of production is governed by certain objective properties of the means of production (land) — the fact that it is physically not transportable and occupies an unchanging location. Therefore, in appraising land, it is necessary to determine the influence of the location of the tract upon its income. However, this influence cannot be taken into account in the indices of the appraisal scale, for if it were, i would be necessary to perform the technically difficult and economically hardly worthwhile job of investigating literally all farm lands in the country from the standpoint of their location. Moreover, this would exceedingly complicate the appraisal scale indices and would make it difficul to use this scale. It seems to us that the location of a trac of land should be taken into consideration only in the concrete appraisal of the land of individual land-users with the aid of the appraisal scale developed for the country as a whole. This should be done by introducing appropriate correction factors.

The following example may be employed to demonstrate the practical utilization of the results of economic appraisal of land. Let us assume that accounting data for three collective farms in the Northern Forest-Steppe zone at equal distances from the marketing point provide the information illustrated in Table 2.

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Table 2

Collective Farms	Soils	Capital Investment per hectare (in rubles)	Costs of Production per hectare (in rubles)	Grain Crop per hectare (in centners)	Cost per centner (in rubles)	Price per centner (in rubles)	Net income per hectare (in rubles)
A_1	A	1000	200	10	20	50	300
B_1	B	1500	700	20	35	50	300
C_1	C	1200	450	15	30	50	300

If we employ Table 2 and do not have the data for the economic appraisal of the land of the collective farms, it will be difficult to determine which of them has made best use of the land, i.e., which has obtained a maximum product per unit of land area with minimum expenditures of labor and funds. From the viewpoint of net income per unit of land area, their activity must be deemed equivalent. From the viewpoint of utilization of the absolute fertility of the soil, the best result was obtained by collective farm B_1, a its yield of produce per unit of area is the largest. However, if we use such indices of economic effectiveness of capital investments in agriculture as cost of production, labor productivity, capital investment per unit of output and the relationship of profit to total investment, the best result derived for three indices, not counting capital investment per unit of output, is that of collective farm A_1.

However, if we employ the data of an economic land appraisal in the above scale by applying it to the soil maps of collective farms, we find that the best results in land utilization for all indices were achieved by collective farm B_1, and the worst by collective farm A_1, which, having the best land, should have received a crop of 20 centners per hectare and a net income of 500 rubles per hectare, had the land been employed rationally. Consequently, collective farm A_1 has large unutilized reserves, and a specific analysis of its business activity will make it possible to determine the paths to be followed in utilizing these reserves. For the period ahead, higher rates of growth of production should be planned for collective farm A_1, and higher government procurement quotas should be established for it.

Without economic appraisal of agricultural lands it is difficult to achieve a rational utilization of arable land, to perform correct planning of the output of agricultural products with due consideration for the objective economic possibilities of the collective and state farms, to correctly determine the differential rent and the effectiveness of capital investments in agriculture. An economic appraisal of agricultural lands is necessary for correct analysis of the economic activity of an agricultural enterprise and in order to reveal the hidden reserves in agricultural production, the growth of labor productivity and reductions in costs of production, and to improve state purchase prices and the system of taxation.

The need for an economic appraisal of land also arises in a number of cases when land is allocated for industrial objects and construction. One of the special problems in hydraulic engineering, for example, is the fact that in the majority of cases it involves the development of large artificial reservoirs and the submerging of enormous land acreages as a result. The reservoirs of hydroelectric stations presently operating in the European portion of the USSR now occupy over 2.5 million hectares of land, and when all the plans and projects for hydraulic engineering have been realized, the areas of the aquatoria of all the reservoirs will equal the territories of the Estonian, Lithuanian, Latvian, Armenian and Georgian Republics combined. (5)

The following are the objectives sought in economic appraisal of agricultural lands for hydraulic engineering purposes, as well as in all other cases in which government-owned lands are allocated for various types of buildings and structures: first, a proper determination of the loss incurred by the national economy due to changes in the purpose of economic utilization of the land; second, the problem of revealing the economic effects achieved by utilizing these lands for their new economic purpose; and third, a comparison of the loss and the benefits so as to determine the most effective economic utilization of the land.

Thus, unlike the situation involved in the economic appraisal of land as the primary means of production in agriculture, we cannot, in the present situation, be satisfied with relative indices of land value. If we also take into consideration the fact that the flooded lands are taken out of agricultural production for the entire period that the hydroelectric stations and the reservoirs function, a period measured in decades, it is necessary, in determining the loss, to calculate not the existing fertility or the soil fertility attainable under average conditions of land exploitation, but the maximum economic fertility determined by the long-range plans for the development of agriculture in this district, oblast, etc.

When arable land is flooded, the land user loses his chief means of production — the land — but he retains all the other means of production. He retains the mechanical equipment for cultivating the soil, and his working cattle. He is completely compensated for the capital investments in the land and for such unutilized investments as farm buildings, irrigation and drainage systems, the fertilizer that has been added to the land, plantings of perennial crops, etc. The economic fertility of the soil emerges as the joint result of the natural fertility of the soil and the artificial fertility created by capital investments in the land. Therefore, it would be incorrect to determine the loss from submerging of agricultural lands as the total value of the net income lost, which expresses the maximum economic fertility of the soil. Only that portion of the economic fertility which is due to cost-free natural factors (comparatively greater natural fertility, more convenient location) and which is expressed in the form of differential rent will constitute a real loss due to flooding. Determination of the amount of differential rent lost by the flooding of agricultural land is an exceedingly complex problem which cannot be solved in each individual instance by the efforts of the single organization that is planning the reservoir. It seems to us that, without complicating matters, it would be necessary in drawing up such plans to proceed from the actual amount of differential rent that would go into the hands of the government through the system of purchase prices and the income tax on the collective farms. That portion of the differential rent which remains with the collective farms is, in practice, not subject to accounting. It may be regarded as the ordinary profit of the enterprise and is not taken into consideration in calculating the loss. On the other hand, in the case of the state farms the government receives not only the differential rent but a portion of the ordinary profit. Thus, the actual amount of loss due to the flooding of agricultural land is determined by the magnitude of the centralized net income lost by the state and is expressed by the following formula $P = (Ts_0 - Ts_z + H_p) \times k$, where Ts_0 are the government wholesale prices for agricultural products without storage expenditures; Ts_z are state purchase prices; N_p is the income tax on the collective farms; k is the ratio of the planned income from crops during the next five to seven years to the actual income. The loss due to flooding of forest lands and of mineral resources being mined and suitable for mining is calculated in the same way.

The land that disappears beneath the surface of the reservoir does not, however, disappear entirely from the national economic turnover. Whereas, prior to being submerged, this land was a means of production in agriculture, after submergence, as the natural base for a controlled reservoir of a hydroelectric station, it constitutes a necessary condition for the production of electric power. The relatively low cost of hydroelectric power is to a considerable degree due to the exploitation of cost-free natural forces in the form of water power. By accumulating water power, a reservoir facilitates the normal functioning of the hydroelectric station. In this instance we are also dealing with differential rent. Here it takes the form of the difference between the individual cost of electric power produced by the hydroelectric station and the social cost which is expressed in the average sales price of a kilowatt-hour in the power systems.

In addition to the direct positive effect in the form of cheap electricity, the creation of reservoirs and hydroelectric stations makes for all-round utilization of water resources, and this yields a considerable effect in the economy. For example, the positive factors in the development of a reservoir include the possibility of irrigating land, improvement in conditions of water supply, water transport, fisheries, etc. According to data of the USSR Ministry of

Agriculture, the construction of an artificial reservoir to irrigate the same area that the reservoir of the Kakhovka hydroelectric station will irrigate would cost 2.1 billion rubles in capital investments. When a hydroelectric station is built in Central Asia, the benefits derived from its use for irrigation are measured in the hundreds of millions of rubles. It has been calculated that the improvement in conditions for shipping on the Volga and Kama Rivers resulting from the development of the Volga-Kama series of hydroelectric stations will result, starting in 1960, in an annual saving of 194 million rubles in water transport operating costs. (6)

Thus, the benefits to the national economy achieved by employing the flooded lands as the base for the reservoir of the hydroelectric station will be measured by the magnitude of the differential rent resulting from the use of these lands for this new economic purpose, plus the additional income obtained by the state through the utilization of the positive factors involved in the creation of a reservoir.

The final stage in the economic appraisal of land to be used for hydroelectric station reservoirs is a comparison of the loss due to their submergence with the positive effect achieved, the purpose being to solve the problem of the most rational utilization of the lands concerned. This problem is solved in the complex of questions determining the national economic effectiveness of agricultural production, forestry, etc., on the submerged lands, and questions of the all-round economic foundation for the efficiency and desirability of construction of the hydroelectric station. If the loss from the submerging of agricultural lands, forests, mineral resources, etc., is more than made good by the positive results of the combined utilization of regulated flow and the net income derived from operation of the hydroelectric station, and if, after the loss has been covered, the system of technical and economic indicators of the hydroelectric station can be competitive with the technical and economic indicators of a thermal power station of the same power, the question as to whether the land should be flooded and the hydroelectric station should be built may be answered in the affirmative.

However, it must be borne in mind that the production of agricultural products is directly related to the fertility of the soil, to the land. The production of electric power does not at all presuppose the occupation of enormous land areas as an absolute necessity. Electrical energy may be produced at thermal and atomic power plants, where land is needed only for the building of the station itself and for the transmission lines. Therefore, the desirability of submerging lands under hydroelectric plant reservoirs must also be examined with an eye to the disturbance of the economic balance of agricultural production and the possibility of restoring it by placing new lands under the plow.

These are the fundamental considerations in the economic appraisal of land employed in agriculture and set aside for construction purposes.

Rational utilization of the land is of major importance to the national economy. The economic appraisal of the land makes possible intensive and planned utilization of our country's land resources with a maximum economy of the labor of society.

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Planovoe Khoziaistvo - Planned Economy - No. 10, 1959

A. Kuchko:

Railway Electrification During the Seven-Year Plan

The great economic advance envisaged by the Seven-Year Plan calls for accelerating the development of railway transport to take care of the constantly swelling stream of goods flowing to and from all parts of the country. With industrial and agricultural output vastly expanding, rail freight turnover is to reach 1,800-1,850 billion ton-kilometers in 1965, an increase of 39% to 43% over 1958.

This increase in so brief a period cannot be achieved with the old technical facilities based, primarily, on steam traction. The Seven-Year Plan, therefore, provides for a thorough-going technical reconstruction of railway transport, widely replacing steam by electric and diesel traction. This reconstruction will be accomplished during the 1959-1965 period. Based on this task, the target figures for national economic development provide that in 1965 electric and diesel locomotives are to haul 85% to 87% of the railways' total freight, as against 26% in 1958. Accordingly, the length of the lines shifted to electric and diesel traction is to reach about 100,000 kilometers. In these seven years electrification will be extended to the Moscow-Kuibyshev-Irkutsk-Far East, the Moscow-Gorky-Sverdlovsk, the Moscow-Kazan-Sverdlovsk, the Karaganda-Magnitogorsk-Ufa, the Moscow-Kharkov-Rostov-Mineralnye Vody, and other lines totalling nearly 20,000 kilometers, which will approximately treble the country's electrified railway network.

Further modernization of the railways is stressed by the Central Committee of the CPSU in the resolution of its June 1959 Plenary Meeting. Besides extensive up-to-date mechanization and automation of large railroad yards, and interlocking of stations and road switches and signals, great emphasis is laid on increasing the daily mileage of electric and diesel locomotives by considerably lengthening their runs. The resolution points out that a primary and urgent task is that of fully mechanizing the more laborious operations, such as track repair and reconstruction, especially in railway electrification.

Extensive mechanization has made for the continuous expansion of railway electrification. Thus, in 1956, 1,019 kilometers were electrified, the target being 981 kilometers; in 1957, 1,360 and 1,263; and in 1958, 1,759 and 1,684, respectively. And as a result of this, by the beginning of 1959 the USSR advanced to first place in the world in both the rate of railway electrification and the length of electrified lines. Now the Soviet Union has 9,500 kilometers of lines operated exclusively with electric locomotives.

Thanks to the efforts of the railway designers, builders and installation men; to the active cooperation of the personnel of the roads being electrified; and to the great work carried out in extending power transmission lines and building up power capacities, the electrified railway network is now growing at the rate of nearly 2,000 kilometers a year. This is also promoted by our industry supplying the necessary electric locomotives and electric trains, equipment and materials, instruments and mechanisms.

In 1958 electric traction hauled 15% of the rail traffic, yielding a saving of about 2.2 billion rubles in operating costs, compared with steam traction, and some 13,000,000 tons of coal. Considering that about 1.5 billion rubles of capital investments are now annually spent on railway electrification, this saving shows what a vast gain accrues to the national economy from changing the railways to electric traction.

Electric traction is greatly superior to steam traction technically and economically. For example, only 4% to 5% of the coal burned in the fireboxes of steam locomotives performs useful work. Bearing in mind that the railways consume more than 100,000,000 tons of coal a year, we can see what a huge amount of fuel is wasted. On the other hand, the system, consisting of an electric station, power transmission lines, traction substations, contact network and electric locomotives, yields an efficiency ratio of 17% to 18%, which can be raised to 28-30% by equipping the thermal electric power stations with economical superheating and high-steam generating units.

The efficiency of electric traction is higher than that of steam traction because in centralized production of power at electric stations with highly economical boilers and turbines the fuel performs several times as much work as in steam locomotives. Moreover, electric stations consume cheap fuels; this likewise cuts power costs. With hydroelectric power, the efficiency ratio rises to 65%.

Besides saving fuel, electric traction permits considerably higher weights and speeds of trains, increasing the traffic capacity of electrified roads by two to two and a half times. This is facilitated by tandeming two or three electric locomotives to haul respectively heavier trains. Another advantage here is that the entire hook-up is operated by one driver, whereas with steam locomotives, each requires its own crew — and yet synchronized action is not always achieved. Steam engines spend much time on refueling, taking water, cleaning the fireboxes. All this is excluded with the use of electric locomotives. Also, the working conditions of the crews are much better on electric locomotives than on steam engines. As electric locomotives have no tenders, the proportion of their weight to that of the whole train is smaller than in the case of steam locomotives. Electric locomotives do not have reciprocating-motion mechanisms and parts and therefore have a smaller impact upon the track. Thanks to its higher operating efficiency, electric traction reduces the need for locomotives by 50% to 75%, which together with fuel-saving and other advantages cuts traffic operating costs by nearly 50% as compared with steam traction.

Experience shows that electrification greatly improves the performance of the railways. The rate of late-running trains has declined and that of trains running on schedule has risen. Traffic safety has increased. The work of the roads has become more stable, especially in the winter, as electrification dispenses with water-taking, which is a difficult job in freezing weather. Besides this, better cooling of the engines in winter enhances the power of the electric locomotives.

Electric traction is particularly effective on suburban lines with short runs and numerous stops. With electro-pneumatic brakes a train can be stopped on a stretch of 250 to 300 meters at an hourly speed of 70 to 80 kilometers.

Thanks to this, trains run at higher speeds and more often.

An important feature of electric traction is the possibility of recovering electric current. On downgrades the motors of electric locomotives, acting as brakes, generate electricity and return it to the contact network, which on some sections saves up to 20% of electric power. Besides this, it eases the run of trains on inclines and reduces the wear of wheels and brake shoes.

Electrification benefits are utilized most fully in building new lines. Here, steeper ruling grades may be used to substantially reduce the length of the road; fewer stations and other permanent installations are required; coal depots and turn-over fixtures are unnecessary; the number and size of engine houses are reduced; less housing and a smaller operating staff are needed, and so on. Calculations show that the saving this yields covers the cost of electrification. Another benefit of electrification is that it permits the extensive mechanization of track work. This is particularly important in the light of the resolution of the June Plenum of the CC CPSU, which cited track work mechanization as a major task in railway construction and maintenance.

Electrification not only modernizes the railways. It also brings electricity to the stations and communities and to nearby collective farms and state farms. Already in 1958, up to 15% of the power assigned to the railways was given to these consumers. In the future this figure is to increase to 45-50%.

With electrification, the railroads are equipped with new machine tools, mechanisms and instruments, whose operation requires highly qualified personnel and a higher standard of work. Replacement of steam engines by electric locomotives clears the railways and nearby communities of smoke, soot, coal dust, slag, etc., which improves the working and living conditions of the people.

The technical reconstruction of the railways in the current Seven-Year Plan on the basis of electrification and the wide use of diesel locomotives will yield great economic consequences.

A number of new and complex problems have to be solved for the successful implementation of the 1959-1965 railway electrification program. First of all, unlike the d-c electrification of the railways pursued hitherto, provision is made for widely applying the more effective a-c single-phase normal-frequency 25-kv. tension in the contact wire, which cuts capital outlays, requires less use of non-ferrous metals, reduces building schedules and operating expenses. The a-c system is to be used in electrifying the Mariinsk-Krasnoiarsk-Zima, the Vladimir-Gorky-Kirov-Balezino, the Cherusti-Kazan-Druzhinino, the Karaganda-Magnitogorsk-Ufa, and other lines, totalling more than 11,000 kilometers.

A-c electrification requires early launching of serial output of high-capacity electric locomotives and electric trains, special cable for overhead communication lines, equipment and instruments for 25-kv. traction sub-stations, and a number of other measures. With a-c electrification, new automation and remote control techniques will be extensively applied during the next seven years. Mercury arc rectifiers will be widely used, and also transistor rectifiers which substantially reduce the cost of and simplify the rolling stock and the d-c traction sub-stations. Electric supply facilities, especially a-c installations, are to be automated and remote-controlled, which will improve their performance, increase their reliability, and release a large number of workers for other jobs. The amount of work to be done in electrifying lines will increase from year to year and will reach 3.3 thousand kilometers in 1965.

The work is to be carried out within compressed time limits, and at a particularly high rate on the Moscow-Irkutsk line, which is to be fully electrified by July 1, 1960. It is important to note also that all traction sub-stations will supply power not only to the railways, but also to enterprises, communities, stations, state farms and collective farms. Accordingly, all traction sub-stations are to be provided with appropriate transformers and distributor and the overhead-line masts will also carry electric transmission wires. All this will help to translate more quickly into reality V. I. Lenin's idea regarding the comprehensive electrification of the country.

On the country's major line, Moscow-Irkutsk, the 1,222-kilometer Mariinsk-Zima stretch is to be electrified on a-c with its Chernorechenskaia-Kliukvennaia 275-kilometer section finished in 1959; and the Mariinsk-Chernorechenskaia and Kliukvennaia-Zima sections, totalling 947 kilometers, are to be finished in the first half of 1960. Compared with d-c electrification, this will save 95,000,000 rubles in capital outlays and 5,000 tons of copper wire. Building work on the traction sub-stations and sectionalizing posts will be reduced more than tenfold, which will save much time, labor and materials.

Only those sections of the Moscow-Irkutsk line will be electrified on d-c where the work has already begun and where changing to the a-c system would require additional outlays; also short sections between the lines that have already been d-c electrified, where application of the a-c sy tem would cause a number of difficulties and increase operating expenses.

The Seven-Year Plan provides for a considerable increase in the supply of electric and diesel locomotives to the railways; their output in 1965 is to reach 2,550-2,700 units aggregating 8,400,000 to 9,000,000 h.p., topping the corresponding figures for 1958 by 140% to 160% in number and by 190% to 210% in capacity.

Greater expansion of traffic is also envisaged on the electrified suburban lines which are to receive, in the 1959 1965 period, 6,800 electric cars, instead of 4,460 originall planned. To increase the output of electric traction rolling stock, a number of factories are being specialized. Thus, the Riga Railway Car Works, beginning in 1960, will be specializing exclusively in the output of motor coaches. The Riga Electrical Engineering Plant is specializing in equipment for electric cars. The output of trailer electric cars is being organized at the Kalinin Railway Car Works. This specialization will ensure the planned expansion of electric rolling stock output.

An electric locomotive plant is being built on the base of the Sverdlovsk Steam Locomotive Repair Plant. Existing electric locomotive works are likewise to be enlarged to increase sharply the output of a-c and d-c electric locomo tives. New types of electric rolling stock are being designed this year and their serial production is to be starte soon. Thus, the Novocherkasskii plant has this year begun serial output of a 5,300-h.p. a-c electric locomotive, mode N-60. The Riga railway car and electrical engineering fac tories are this year turning out an a-c electric train with ignitron rectifiers; they are also designing such a train with transistor rectifiers.

To ensure fulfillment of the railway reconstruction program, the Ministry of Transport Construction must, besides completing this year's targets, make full use of all capital allocations for starting work to be carried on next year. It must also take measures to improve the quality o building and installation work, especially with regard to re inforced concrete masts for overhead contact lines, laying foundations for anchor stays, etc.

The Seven-Year Plan calls for further mechanization and industrialization of railway electrification work. Accordingly, 21 specialized trains for setting up contact lines, traction sub-stations and communication facilities; 25 mechanized teams for building transmission lines; and 6 special mechanized cable-laying teams for work on the Mariinsk-Zima section will be organized on the Trans-Siberian Road alone. New mechanisms and more efficient methods of labor should be devised and applied to accelerate the work, improve its quality, reduce costs, save materials and manpower.

The most complex and laborious job in railway electrification is the erection of the contact lines. A great deal of manpower and resources are still ineffectively used in digging pits for foundations and masts. Available machines designed for this purpose are not generally used. An experimental model of a pit drill was tested as far back as 1953, yet it has still not come into practical use.

Many of the difficulties in railway electrification are due to wrong planning and delays in deciding many questions by some organizations of the Ministry of Railways. Thus, the Ministry of Railways has still not adopted a schedule for the electrification of the lines under the 1959-1965 program, including those to be changed to a-c traction. In consequence, the need for electric locomotives and electric trains, including those for a-c traction, as well as the need for equipment and materials, has not yet been estimated. Plans have not been prepared for work preceding electrification, for the construction of power transmission lines, and for many other tasks. Problems connected with linking up a-c and d-c sections, reconstructing communications when changing to the a-c system, cutting down on mercury rectifier backfiring, preventing burn-out of rapid automatic units, etc., have still not been resolved.

The Ministry of Railways and the Ministry of Transport Construction must carry out a number of measures in these seven years to reduce electrification costs and consumption of non-ferrous metals.

Estimates show that the cost of electrifying a kilometer of a 2-track line can be cut by 20% to 25%, and considering auxiliary work, by 35% to 40%. Yet, the plans for electrification of some sections, approved in 1957-1958, do not provide for the necessary reduction in building costs. Particularly high are the costs estimated for the Kursk-Kharkov, Nizhnedneprovsk-Iasinovataia, Zima-Cheremkhovo, Perm-Balezino, Slaviansk-Ilovaiskoe, and other sections.

Owing to the inefficient methods, the cost of contact-line reinforced-concrete masts is particularly high, though investigations show that it can be reduced by at least 20%. To lower construction costs, mast foundations should be calculated by the limit-design method; the more effective crossbar construction (instead of the catenary) should be used, especially at stations. The much cheaper way of installing masts "from the field" should be more widely practiced.

The Ministry of Railways' building organizations continue to stick mainly to the less economical two-piece masts for contact lines, instead of using the cheaper one-piece masts. There are cases of designing sections with more expensive anchor towers without wire stays.

There is also waste in depot designing, primarily because in spacing locomotive terminals due account is not taken of the longer runs of electric locomotives. Hence, depots and fueling stations are often built and then become unnecessary when the locomotive runs are lengthened (Raevka, Tatarskaia, Chulymskaia and others). This matter must be urgently adjusted.

A substantial saving will be gained from eliminating excessive space and equipment in building traction sub-stations. For example, large two-story buildings are still being erected for sub-stations in d-c electrification. Besides this, all traction sub-stations are equipped with remote control relays and corresponding cables are laid even when the given sections are not to be remote-controlled. Abandonment of this practice will save more than 250 relays and 1,500 meters of cable on each sub-station. A big saving will be achieved by using short-circuit instead of oil switches at intermediate stations. To cut electrification costs the blueprints should be revised and all outdated equipment excluded.

Particularly serious thought should be given to reducing costs in a-c railway electrification. Judging by the project for electrifying the Krasnoiarsk line, there are a number of defects in this matter. For example, the project called for heavier contact-line masts designed to carry d-c wire which is two-and-a-half to three times as thick as a-c wire. It also called for transformers of a higher capacity; after examination, this requirement was reduced by 20-25%.

Blueprints drawn up in 1957 and 1958 groundlessly envisaged higher costs of building electric supply facilities which in most cases were calculated for up to 180 pairs of trains a day in both directions, whereas actually only 35 to 40 pairs of trains are running in one direction. Here, too, more realistic and substantiated calculations should be made.

Lowering of building costs is of tremendous importance for the state because it is on this that the successful fulfillment of the general railway electrification plan depends — the salient feature of the technical reconstruction of the railways. Accordingly, the designing, building and installation organizations and the Ministries of Railways and Transport Construction must take urgent measures to assure the successful accomplishment of this task. Considering that more than two years have passed since the cost-reducing measures were adopted, these ministries must draw up and adopt further measures and ensure their fulfillment. This should make it possible to achieve a saving of 2.0-2.5 billion rubles of state funds in 1959-1965.

It is of no lesser importance to reduce the consumption of non-ferrous metals. Electrification of 20,000 kilometers of railway lines on d-c would require some 200,000 tons of copper for the contact network alone. A great saving can result here from using a-c: more than 3 tons of copper per kilometer. Since 11,000 kilometers will be electrified on a-c in 1959-1965, the saving of copper will be about 40,000 tons.

Another substantial saving of non-ferrous metals is achieved by lengthening locomotive runs in electrifying the railways. Here, a number of terminal stations should be converted into intermediary ones with a much smaller number of electrified tracks. Doubling of the length of locomotive runs would make it possible to save up to 50 tons of copper for every 100 kilometers of electrified line. Ten per cent more copper can be saved by using bimetal, instead of copper, wire for catenary suspension of contact lines.

Today the carrying cables of contact lines are made chiefly of copper. Yet studies have shown that these cables can be well made of steel-aluminum alloy.

It is also high time to change the design and parts of the contact lines, using plastics instead of brass. Replacement of brass by plastics for hanger and registration fittings alone will save hundreds of tons of brass a year.

A great saving of copper can be achieved also in the operation of electrified railways. Studies have established that sliding of pantograph copper linings on copper contact wires abrades up to a kilogram of copper per thousand kilometers of electric locomotive run. Already now, about a thousand tons of copper a year are thus abraded and this figure will grow with the extension of the electrified lines. To prevent this, carbon linings should be used, as well as a dry graphite lubricant which reduces by one half the wear and tear of contact wires and correspondingly increases their life.

Of no small importance for reducing the wear and tear of contact wires is the design of their hangers and the quality of their installation. The more horizontal the wire is, the smoother the pantograph slides and the less is the wear and tear on the wires.

The above measures for saving non-ferrous metals in building and operating electrified railway lines are well known and it is all the more inexcusable, therefore, that the Ministry of Railways and the Ministry of Transport Construction are still not fully applying them.

In saving non-ferrous metals a great deal depends on the electrical engineering and non-ferrous metals industries. For the railways to apply a-c, these industries must produce electric locomotives and special communication cables on schedule. Non-ferrous metals plants must begin the manufacture of copper-plated steel contact wire, which saves much copper on station sliding-contact lines. They should also launch the output of wear-resisting alloy contact wires. Pantographs should be made lighter. It is likewise necessary to start manufacturing carbon linings, cadmic copper for traction motor commutators, and other copper-saving devices.

The saving of non-ferrous metals in electrifying the railways is a matter of tremendous state importance, and all the necessary measures should be taken to promote it.

For the railway electrification plan to be successfully accomplished, the Ministry of Electric Power Station Construction must carry out on time its targets for expanding power generating capacities to feed traction sub-stations and for building power transmission lines. In 1958 construction of transmission lines fell behind schedule in a number of places, such as on the Tuapse-Sochi, Novosibirsk-Taiga, Alexandrov-Vspolye, Moscow-Riazan, Kharkov-Lozovaia-Slaviansk, and other sections.

To carry out the vast electrification program in a short time, the economic councils of the Russian Federation have been widely enlisted in this work. They have been assigned the building work on the 110- and 220-kv. district sub-stations, the production of pre-cast reinforced concrete and metal structures for the electric power stations and power transmission lines, the cutting of lanes in forests, and many other jobs.

Supply of equipment and materials for the electrification of the railways must be under the constant and unflagging control of the State Planning Committee of the USSR, the state planning committees of the republics, and the respective economic councils.

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V. Batyrev:

Some Theoretical and Practical Problems of Credit in the USSR*

Credit under socialism, being dependent on commodity production of a special kind, is an inseparable part of the system of commodity-money relations and is used in a planned way to develop the productive forces of socialist society.

In the most general form, credit relations under socialism are a medium for the planned redistribution of money resources in special forms — on the basis of repayment and, as a rule, with interest — in accordance with the requirements of socialist production.

The planned distribution of money resources in the socialist economy is effected, as we know, through several channels, and primarily through the prices at which produce is sold. A very important factor in the redistribution of the value of the surplus product is the state budget, in which the sums designed to meet the needs of the state are concentrated. In addition, the socialist economy also uses credit forms of redistribution. These are applied primarily to the circulating resources of enterprises and organizations temporarily appearing in the form of money, to resources in the process of redistribution through the financial system, and also to the specially assigned loans which are granted to enterprises; to monetary accumulations distributed within the co-operative and collective farm sector, to resources furnished the latter by the state, and to a substantial part of public savings.

It has frequently been noted in our economic literature that credit under socialism is necessary because of the circulation of the funds of socialist enterprises — the release of monetary resources by some enterprises, and the advancing of funds in the process of production and circulation in the case of others. This in itself is quite right, but it does not adequately explain the need for credit under socialism nor does it characterize its role. The foregoing definition is applicable only to that part of the credit which is provided by banks out of the funds derived from their own operations. But, as we know, up to 40% of the banks' resources come from budgetary funds; in addition, certain other resources are also utilized.

Why, then, is credit necessary under socialism and what is its essence? Marx, as we know, saw the root of the relations between loanable capital and capitalist credit in the contradictions between capital as a self-growing value, designed to yield its owner surplus value, and the necessity of releasing capital in the course of its circulation in money form when it cannot serve directly as a means of appropriating unpaid labor. If, in the process of circulation of capital, the released sum of money is to serve as capital, the latter has to be alienated as a commodity, the use-value of the money as capital has to be placed in the hands of the functioning capitalist and the money will appear in the capacity of loanable capital. Here we have an antagonistic contradiction, expressing the relations and conditions of exploitation and determining the antagonistic character of capitalist credit. Accumulating the cash resources of the capitalist and non-capitalist classes, the capitalist banks place them at the disposal of the monopolies in the form of loanable capital, and also provide them to the bourgeois state, which uses them for enriching the monopolists.

The nature of the funds of socialist enterprises is, of course, fundamentally different: they are not capital, not a "self-growing value," but material wealth (and simultaneously values), produced and utilized in a planned way in the interests of the whole of society for productive and individual consumption. But in the circulation of socialist funds there also arise definite non-antagonistic contradictions whose solution resuires the use of credit.

The sums released and newly advanced in this circulation, representing the value of the produced and realized social product, have to be fully distributed and economically utilized in the process of production and circulation (or in the non-productive sphere) in order that the mass of the created social product be used in a planned and most effective manner. In the case of the major portion of the social product this task, as stated above, is solved through the mechanism of prices and distribution through the budget. However, a part of the monetary resources must be redistributed on the principles of repayment, that is, in the form of credit. The necessity for this kind of redistribution arises for a number of reasons.

First, in the circulation of the resources of enterprises, a part always appears in the form of money which is released because the time of its formation and expenditure does not coincide, and this is used for money payments. During the circulation of monetary resources, current monetary reserves are also formed in various links of the financial system. Each cash sum of this kind remains within the circulation of the given enterprise or organization for only a short time, and is then expended in conformity with its production and financial plan. As a result, constant monetary resources are created in the channels of circulation which have to be used in a planned way. However, these resources may not be alienated and redistributed through the financial system. A system of accumulation and allocation of these monetary resources is necessary, one which will fully ensure their planned utilization in the national economy and which will actually give enterprises (or links of the financial system), in whose circulation the money is released, the legal right to use it for current payments.

Second, in the course of circulation of the resources of socialist enterprises, resources may be expended uneconomically. The system of providing enterprises with their own working capital does not, as yet, fully ensure proper control over their effective use. Hence, the need for additional control, based on the objectives of the allocation of resources and the planned schedule of their circulation. This is also achieved with the aid of credit.

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* Intended to pose the question.

Third, under socialism the cash accumulations of collective farms and co-operatives which are their property, as well as the state funds allocated to them for some given purpose, but which remain state property, must also be used in a planned way for the benefit of the whole of society. This can only be accomplished through credit. Credit is also necessary for rallying public savings and using them to meet the needs of the state.

Hence, the impossibility of directly channelling into state funds money which is temporarily liberated in the circulation of the resources of given enterprises arises out of the character of public, state ownership of the means of production under socialism, which are utilized in a planned way in the management of individual state enterprises. This, in essence, is what determines the need for additional economic control (control by the ruble) by means of credit, over the activity of socialist enterprises. The need for credit in the relations between the state and the co-operative-collective farm sector also follows from the nature of co-operative-collective farm ownership.

Some economists hold that the redistribution of monetary resources among enterprises in the process of circulation of their resources is not the decisive factor necessitating credit. They explain this necessity as merely arising from a lack of coincidence between the time when the commodity is marketed by the seller and the time when money is available to the purchaser. (1) Interpreted thus, credit is in fact reduced to commercial credit. However, along with commercial credit, Marx also examined bank credit, and along with loan money, connected with commercial credit in the form of discounting bills, for example, he also examined loan capital, in which case the capital appears directly as a commodity. We also know that redistribution of resources is not foreign to commercial credit relations. The most important reason for the abolition of commercial credit during the credit reform of 1930-1931 was that it served as a medium for unplanned redistribution of monetary resources.

Underestimation of the significance of planned redistribution of monetary resources in credit relations leads to a number of erroneous conclusions. Firstly, it belittles the role of the enterprise's own funds in current payments, and attempts to cover the latter are made through bank credit, which conflicts with the requirements of cost accounting.

Furthermore, only by treating the significance of credit as an instrument of redistribution of monetary resources can one perceive the role it plays in assigning resources in conformity with the real needs of enterprises. Finally, the significance of planned balancing of credit resources and bank deposits for observing proportions in the development of the national economy and for strengthening money circulation is an essential matter. Nor can this role of credit be fully apprehended without an eye to its vital role in the redistribution of monetary resources (and hence, also, of the social product) in socialist reproduction.

As a form of recurring redistribution of monetary resources, credit has to cope with important economic tasks in two interdependent directions, each of which is also significant on its own account. On the one hand, the released monetary resources are involved, in the form of credit, in the channels of social distribution by their accumulation in clearing and current accounts at banks. In this case, the debtor is the bank which concentrates the monetary funds of enterprises, and, acting on their behalf, transfers payments to other enterprises and organizations and supplies the cash for wages and other incomes of the public. Thanks to the development of clearing accounts, enterprises and organizations always have considerable sums on account at banks. In clearing accounts of economic organizations at the State Bank there are about 40 billion rubles; these represent chiefly current money balances of enterprises and organizations which are used to meet their payments. The average rate of turnover of the money in these accounts is about four days. The standing money balance in these accounts serves as one of the sources of State Bank credit investments (about 15% of their overall value). Furthermore, monetary reserves for current payments exist in the current accounts of collective farms and institutions, which are maintained on state budget funds, and on the budget accounts proper. The money issued by the State Bank to depositors for paying out wages and for other payments to the population is returned again to the bank in the form of revenue from retail trade, from organizations which provide paid services to the public, etc. The money turnover effected through clearing and current accounts in the banks is a means of control over money expenditures by enterprises and organizations in accordance with planned assignments.

The second aspect of credit relations — bank credit granted economic bodies for a fixed time period for the accomplishment of definite processes according to plan — is also directed to achieving the same objectives (that is, planned redistribution of monetary resources and control by the ruble). Bank credits advanced for a given purpose over a fixed period of circulation of resources in one or another economic process, as well as the concentration of money in bank accounts, result, above all, in the extraction from the turnover of enterprises of the resources released in the form of money. This arises, first of all, as the result of the bank advancing the money only when the enterprise has to pay for some acquired material values. Secondly, the funds granted to enterprises through the means of credit (loan funds), if the duration of the loan is timed correctly and the bank exercises control over their proper utilization, appear in the form of money but they do not remain with the enterprise; they are extracted by the bank which had previously advanced them. When extending credit on the turnover, the money is immediately returned to the bank so that in the case of repeated advances it again goes to the enterprise as a bank loan. This heightens the degree of concentration of monetary reserves in the State Bank, facilitates the possibility of maneuvering them on a general state scale in meeting the needs of production and circulation. This is especially important in seasonal branches of production where only in given periods of the year does the need arise for large investments in seasonal stocks and expenditures in production, while during the rest of the time the resources are released in monetary form and have to be used for other economic purposes.

Because bank control plays a great role in the Soviet national economy, it is wise to apply credit relations on a wider scale in both the branches where the character of the turnover of resources is seasonal, and in the branches where the cycle of production and circulation is continuous, above all in heavy industry and machine building. This also explains the feasibility of using credit in a number of instances in providing funds for capital investment.

As mentioned above, the two aspects of credit relations — concentration of the monetary resources of enterprises and organizations in bank accounts, and the credit investments of banks — though closely related, are nevertheless independent in character. Thus, the demand for short-term credit investments of banks substantially exceeds the sum of free monetary resources in the national economy. Hence, bank resources used for short-term credits are partially supplemented by state budget funds. Furthermore state funds channelled through the budget may also be granted to collective farms and co-operatives for capital investments in the form of long-term credits. The steadily rising public savings are also drawn into state channels in the form of credit (deposits in savings banks, state loans at 3% interest), though their utilization for economic and cultural construction is not connected with credit relations.

In given enterprises these two aspects of credit relations differ according to the method of formation of their working capital (and partially, also, of their fixed capital) — at the expense of their own, or of loan, funds. Experience has shown that an optimum combination of economic self-sufficiency of an enterprise with economic control over the proper utilization of state funds is achieved when, at one and the same time, the enterprise is provided both with its own working capital and short-term bank credit. In branches with an interrupted, seasonal turnover of resources, such a combination is achieved through the application of principles established by the credit reform of 1930-1931, in accordance with which the requirements of enterprises for constant, undiminishing reserves of commodity and material values, as well as expenditures on production, are met from their own working capital, and for seasonal and other temporary reserves and expenditures, from bank credit.

In branches with a continuous turnover of resources, this is achieved through the so-called joint participation in their turnover of their own and of loan funds (bank credit). This method of credit is widely employed in trade and, in a lesser measure, in branches of heavy industry. Furthermore, bank credit participates in providing the funds designed for payments (payments turnover) by economic organs. On the whole, about 50% of the working capital of the national economy is formed from short-term bank-credits. Actually, all enterprises and economic organizations resort to State Bank credits in one form or another, although in a number of branches — heavy industry, capital construction and also in collective-farm production — the ties between enterprises and banks, and bank control, are still inadequate.

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Credit not only participates in the redistribution of the monetary resources of socialist enterprises, it also performs important functions in the process of money circulation. Here we may distinguish the same two aspects of credit relations.

First, the concentration of monetary resources of enterprises and organizations in banks serves as a basis for developing clearing accounts between them by remitting money (bank obligations) from one account to another, and also for issuing available cash by the State Bank, and for its accumulation (cash supply in the national economy).

Second, through the medium of bank loans, monetary resources enter into payments turnover. The funds entered on the accounts of credited enterprises or their suppliers in the course of granting loans eventually circulate in the clearing and cash turnover, fulfilling therein the functions of the means of circulation and instruments of payment, as well as means of accumulation and savings. The provision of money for turnover is not only effected by banks in granting credits to enterprises, but also by the enterprises themselves from their own resources, and also from the budget in financing the national economy. However, there is a substantial difference between these sources of funds in the economic turnover. As the credit, clearing and issuing center for the whole of the socialist economy, the State Bank, in accordance with the requirements of money circulation, and at the expense and within the scope of depositors' funds released in money form, may increase, and if necessary reduce, the quantity of money circulating in the channels of the clearing accounts and cash turnover.

Each and every kind of bank loan involves advancing money into payments turnover. However, some types of bank credit (the so-called clearing and payments credits) are directly concerned with making payments. In providing credit for stocks of material values at enterprises or production expenditures, the movement of money, as a rule, coincides with that of the value of the credited materials only in one link — in the issue of the loan and the payment made with it for these material values. Eventually, the material values become inventories or are processed, and the monetary resources circulate until such a time as the corresponding mass of value again assumes a money form and the loan has to be returned to the bank. But in the case of clearing and payments credit, the granting of loans is directly associated with the requirements for funds in the payments turnover: the loans are issued to the paying enterprise, and the money goes into the payments turnover only for a period which essentially coincides with the terms of payment. Afterwards, the credits are either repaid or converted to other kinds of loans issued for the acquisition of stocks of material values.

By combining credit, clearing and issue functions, the State Bank, in accordance with the process of production and circulation, constantly transfers circulating monetary resources from the sphere of clearings to cash turnover and vice versa. Therefore, the credit operations and credit planning of the State Bank, along with all financial planning, are used to solve the problem of planning the circulation of money.

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The prevailing credit system in the USSR on the whole meets the tasks of steadily developing the socialist economy. However, we think that there are certain failings and unsolved problems which hinder the fullest utilization of credit relations in the national economy.

The system of fixed-time credits for given purposes has great possibilities for establishing financial control over norms of expenditures of materials and money resources, and the periods of turnover of resources in economic processes which are financed by credit. The decision of the USSR Council of Ministers and the CC of the CPSU of August 21, 1954 "On the Role and Tasks of the State Bank of the USSR" by which the magnitude and terms of bank credit were linked with qualitative indices of economic organizations (fulfillment of planned assignments in production costs and accumulations, retention of their own working capital, etc.), was of great significance in strengthening bank control by the ruble. This decision established favorable credit terms and payments for efficiently operating enterprises, and special terms, involving restricted credits and control over elimination of shortcomings, for poor enterprises. The tasks of the Seven-Year Plan for still greater economy in all branches make it extremely important to make bank credit and control by the ruble more effective. However, the opportunities available for effective bank control by the ruble over the activity of enterprises are not yet fully utilized. The time periods of loans and bank credit sanctions do not always ensure the elimination of shortcomings in the operations of enterprises, and the mobilization of their internal resources. That is evident from a number of facts.

The reorganization of management in industry and construction promoted the expansion of credit relations of the State Bank with the enterprises of non-seasonal branches of production, primarily with heavy industry, in the form of so-called "turnover" credits on the basis of the joint role of enterprises' own and borrowed funds participating in the formation of stocks of material values. Lately, the number of enterprises making use of this type of loan has increased considerably. But even under the new conditions, this form of credit is not yet sufficiently widespread, in spite of the fact that the present regulations for loans to pay for raw materials and goods, and the terms of repayment, should ensure bank control over turnover and help the enterprises to square accounts promptly with suppliers. This shows that bank control is not yet fully effective and that the enterprises themselves are not greatly concerned and materially responsible for settling accounts with suppliers promptly.

Stronger bank control was handicapped by the growing practice, in past years, of giving enterprises in some branches unlimited credit, that is, loans equal to the actual (including above-plan) accumulations of credited stocks of material values. This is a reasonable practice, for example, in granting credits upon stocks of agricultural raw materials of the food and light industry enterprises. However, its application in relation to stocks of finished goods (which is still practiced in certain branches of the food industry) does not help to adapt the assortment of produced goods to the prevailing structure of demand. (2) Furthermore, some State Bank departments provide excessive credit privileges, wishing thereby to reduce the sum of overdue loans. But failure to pay loans on time is, as a rule, indicative of unsatisfactory work of the enterprise and a sign that credit and other means of economic and public influence should be directed towards that particular enterprise.

Though very important, fixed-time loans cannot ensure adequately effective influence of bank credit on the economy. Sanctions for failure to pay off a bank loan in time, for delays in paying suppliers, do not, in most cases, entail any measures seriously affecting the enterprise, do not interfere with its supplies of raw and other materials, receipt of money to pay out wages, etc. This is due to the fact that each enterprise occupies a definite place in social production.

In our opinion, insufficient use is made of such an effective economic instrument as differential interest rates on loans. As we know, at present the State Bank imposes a somewhat higher rate of interest on overdue loans — 3% instead of 2% on planned loans and 1% on clearing credits. However, these rates of interest are not sufficiently conducive to observing the periods fixed for the return of loans, and particularly to reducing requirements for loans by economizing on resources and increasing their rate of turnover. The differentiation of rates of interest for loans should be increased. For instance, interest rates should be raised on overdue loans resulting from hitches in the operation of enterprises, on loans advanced to poorly operating enterprises, which receive credit and clearing accounts in accordance with special regulations, etc. But these measures do not yet solve the problem of making the rate of interest a more significant factor in influencing economic bodies through credit. In our view, this problem is linked with the solution of a more general question, that is, of raising the role of profit indices in the operation of the enterprises.

By correctly combining the enterprise's own and borrowed funds, and by appropriate rates of interest, the interest charged can noticeably effect the profitability of an enterprise. By enhancing the role of profitability indices, interest rates could seriously stimulate the economical utilization of credits.

At present, the bulk of profits, including the share which remains at the disposal of the enterprise, is directed to some particular production measure in accordance with the plan; for these measures, provided the internal planned resources are inadequate, state funds will be supplied for purposes of financing. Deductions into the enterprise fund are largely derived from above-plan profits, but these sums, too, are largely used for production purposes and only partially for satisfying the wants of the employees of the enterprise. The introduction of new machinery financed out of these sums leads to a reduction of production costs and makes the enterprise more profitable. But these results are taken into account in fixing planned profits for coming years.

If the magnitude of the plant's profits were in greater measure to affect the volume of funds which could materially serve to stimulate the employees of the enterprise, this would tend to improve the operation of the enterprise in a number of ways. In particular, it would provide greater opportunities for using interest rates to stimulate economical use of credit, that is, the economical use of resources and the acceleration of their rate of turnover. It would heighten the interest of the employees and the responsibility of the management in mobilizing internal resources and reducing credit requirements, in returning loans on time and preventing delays. Along with the greater role of cost accounting incentives, there would also be stronger financial control over the operation of enterprises. It would also heighten the responsibility of enterprises for observing payments discipline in view of the fines imposed for failure to pay for material values and services on time (the fines should be raised and differentiated, depending on the reasons for delay). This would also strengthen the position of banks issuing credits to enterprises in ensuring prompt payments, something they are not always sufficiently interested in today.

We believe that these measures, while heightening the interest of enterprises in better utilization of bank credit, would also increase the use of credit furnished to industrial enterprises on the basis of "turnover." It is necessary in this connection to adjust the terms of this kind of credit. At present, for example, when enterprises are switched to credits "on turnover," part of their own working capital, corresponding to the sum of credit granted, is placed in a special account in the State Bank and the latter charges interest (even if only 1%), whereas those that have not been transferred to the "turnover" credit system are exempt from such charges. This, too, handicaps the transition of enterprises to such a credit system. We think it would be appropriate to provide equal terms for all enterprises, including those that have and those that have not been switched to this credit system. Until the "turnover" credits involve the bulk of enterprises, it would be well to stop charging interest for State Bank "turnover" credits on the enterprises' alienated working capital. In utilizing credits in smaller amounts, it would be advisable to pay enterprises interest, as is done on funds deposited in clearing accounts.

In addition to increasing the scale of credits on "turnover," measures should be taken to enhance the control functions of banks in providing credits of this kind. This control must, above all, prevent the creation of surplus and unnecessary stocks of commodities and material value in excess of plan, especially at the expense of credits provided by the State Bank. Simultaneously, steps should be taken to strengthen State Bank control over the implementation of plans for marketing produce by enterprises. The present practice of credits "on turnover," based on return of credits only after shipment of finished goods irrespectiv of the marketing plan, does not create the conditions for exerting effective influence on enterprises, especially in relation to output of goods required by the national economy.

In the new conditions, credit relations with collective farms should expand considerably. In the last few years commodity and money relations on the collective farms have been developing ever more as a result of the measures of the Communist Party and the Soviet Government to obtain a sharp expansion in agriculture and raise the incomes of collective farms and their members. The turnover of funds of the enlarged, highly productive and profitable collective farms is being adjusted, their working capital is being expanded and their monetary turnover is growing. But the old forms of credit relations still prevail between collective farms and the banks, and partially also the forms of accounting and settlements established at a time when elements of a natural economy were as yet important factors in collective farms. Although bank credits granted to collective farms are growing, they are still advanced in small amounts and only to cover certain production expenditures; but the stocks of material values, including seasonal ones, are derived primarily from previously accumulated funds and from current revenues of collective farms. For major cash expenditures of collective farms in the course of the production cycle — advance cash payments and guaranteed payments for collective farm labor — bank credits are allocated indirectly through credits to procurement organizations for advance payments to collective farms. This narrows direct credit relations between the banks and collective farms, and reduces the possibility of the banks aiding them in organizing the circulation of resources and exercising financial control over their activity.

Now that all short-term and long-term credits, clearing accounts, and cash payments have been combined in the State Bank, organizational facilities have been set up for establishing closer relations between bank branches and collective farms, and for strengthening bank control over their expenditures and the turnover of their capital. Hence, the question arises whether it would not be more rational for the enlarged, highly productive collective farms to gradually switch to fixing norms for their own working capital, to granting direct short-term bank credits for above-normal stocks of material values of collective farms, and to granting direct credits for their production expenditures, including advance payments and guaranteed pay for the labor of collective farmers for periods prior to the marketing of the harvest. In short, it means switching (with certain variations) enlarged highly productive collective farms to forms of financial management and credit relations which have been largely justified in the state sector. This should promote the further development and improvement of collective-farm production and the upsurge of the productive forces of collective farms.

The machinery of the collective farms is steadily increasing, construction has developed on joint collective-farm power plants, irrigation systems and land reclamation undertakings. Expenditures are increasing on public utilities, on cultural work in collective farms, etc. In carrying out all of this, long-term credits, which make it possible to combine the cash resources of a number of collective farms and provide them with state financial assistance, will play a big part.

Recent projects for amending credit procedures on commodity circulation boil down chiefly to the fact that repayment of bank loans should be based on the commodity circulation plans of the respective trading organizations, and not on the planned periods of commodity turnover, which has been the practice up to now. However, under the present system of unlimited credit for commodity circulation, rejection of the principle of returning loans in accord with planned turnover would mean weakening financial control over commodity supplies going into the trading network in accord with the structure of consumer demand. Consequently, this would not help to solve the problem of trading organizations exerting greater influence on industry in supplying goods which, in quality and variety, would meet consumer requirements. Hence, such a change of credit regulations for trading organizations would call for a limitation of these credits in one form or another. This should be borne in mind in altering the practice of credit financing for commodity circulation.

Another important matter is the expansion of credit relations in capital construction. In the state sector, planned distribution of monetary accumulations on a national scale is effected largely through budgetary financing and utilization of profits, and depreciation funds remaining at the disposal of management. The State Bank and the Construction Bank grant loans for the introduction of new techniques which are not stipulated in the financing plan and which are made good in a relatively short time. However, measures for the introduction of new techniques are mainly effected through the state financing plan.

During the years of industrialization long-term credits were granted for capital investments in state industry, with the loans being repaid out of depreciation funds and profits received after commissioning the plants. In those days the system did not justify itself. Financial plans were established for the year, whereas long-term loans had to be repaid over 15-20, or more, years. The financial plans of enterprises had to provide in each following year for repayments of long-term loans. Hence, these payments were actually covered out of state sources and did not, in fact, prompt enterprises to recover and carefully justify their expenses. When investments were made in new construction sites, during the period of construction there actually existed no industrial unit — the enterprise — which in the final analysis had to ensure the return of the loan.

Conditions today are different. Problems of the effectiveness of capital investments and reckoning of the time factor are now matters of prime importance. The Seven-Year Plan for national economic development provides for a considerable expansion of capital investments in the reconstruction of functioning enterprises, their modernization and re-equipment, the introduction of new techniques which in a relatively short time yield great economic effects and can be recouped in a few years. Furthermore, long-range plans are being worked out for enterprises, which in some measure will also cover their finances. Under these conditions, financing capital investments for the reconstruction of operating enterprises and the introduction of new machinery through some use of bank credit for a planned period of recoupment of expenditure through additional reductions of costs, and also through depreciation funds, would prompt enterprises to concentrate investments on projects which would provide the necessary economic effect in the shortest possible time, economy of resources and proper utilization of new techniques. The practice of bank credit being used for new machinery shows that stipulation of fixed dates for returning loans in accordance with the period of recoupment of expenditures promotes the concentration of investments on the more effective projects, economy of resources and shortening of the period of construction. Therefore, along with the expansion of the present practice of allocating credit for the introduction of new machinery, which helps to promote the initiative of enterprises in the indicated direction, it is worth considering the question of also using credit, through the State Bank and Construction Bank, for part of the planned capital investments on modernization, reconstruction and introduction of new machinery in operating enterprises.

We also consider the proposal of some economists to employ credit for financing the resources of contractor organizations as correct. At present, contractors are paid for elements of actually completed work and accounts are adjusted annually. Delays in completing work according to schedule and dispersion of the construction work do not affect the contractor organization, which continues to recover its actual expenditure and even to receive profits. This conflicts with one of the most important tasks confronting our country in the current seven-year period — to accelerate the construction and the commissioning of new enterprises. Therefore, we think it correct that a regulation be established whereby accounts with the contractor would only be settled after the completion of all work on the site (plant, shop, etc.). During the period of construction the contractor organization should be granted loans by the Construction Bank to cover all expenditures in conformity with the estimated cost of the job. To return the loan on time, the contractor organization will have to complete construction according to schedule and settle accounts with its client. This means that it will strive for the most rapid completion and commissioning for operation of the construction project as a whole.

At present a serious task faces the State Bank in the area of credit planning. Planning credit investments in conjunction with the planning of bank resources and money circulation is one of the greatest advantages of the socialist economy. It promotes the proportional development of the national economy. The task is not only to establish conformity between bank resources and credit investments in the plan, but also to ensure it in the process of fulfilling the plan by mobilizing additional internal resources. In the solution of these tasks, a special place is held by the credit plan insofar as it reflects the final results of the whole of the financial balance of the socialist economy.

The problem of balancing credit resources and their use in the process of fulfilling the national economic plan is to some extent solved through quarterly credit planning, making it possible to reckon with deviations from the plan over the year by means of the quarterly plans. However, within each of the quarterly plans such deviations are not adequately considered in the course of fulfilling the credit plan. The fact of the matter is that planned assignments for local State Bank branches are established only in relation to some (limited) credit investments and are not worked out for principal types of bank resources. Hence, in fulfilling local credit plans no account is taken of fulfilling the over-all plan of mobilizing bank resources. We have already noted the importance of this problem in planning monetary circulation (see Voprosy Ekonomiki, 1957, No. 6). This question is also important in using the mechanism of bank credit to influence the reduction of expenditures and to mobilize national economic resources. We believe the time is ripe for elaborating credit plans for credit investments and resources on a territorial basis — for State Bank branches — and providing them with credit resources from the center (in addition to local resources) only to the extent that these resources are created in the State Bank system as a whole. Along with restricting credit investments of the bank to the volume of the actual resources involved, this will prompt State Bank branches, as well as local bodies, to mobilize additional monetary resources in the Bank's account to increase the scope of credit. The next step in this direction should be approval of the respective credit plans for the Union republics, as was done in 1959 in the case of the State Bank cash plans. These measures will heighten the responsibility of the Union republics for making better use of credit and will enhance the Bank's role in further developing the socialist economy.

Footnotes

(1) See article "Certain Questions of the Theory of Credit Under Socialism" by S. Shteinshleiger, in the magazine Dengi i Kredit, 1959, No. 8.

(2) We cannot, therefore, agree with these economists who see in the practice of unlimited credits general, natural tendencies in the development of bank credit (see, for example, article by Iv. Shenger in Dengi i Kredit, 1958, No. 1).

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A. Bachurin:

Problems of Profitability of Industrial Enterprises

The realization of the majestic tasks mapped out by the 21st Congress of the CPSU in the sphere of the all-round development of the productive forces and the creation of the material and technical foundation of communism calls for a systematic reduction of production costs and increases in internal accumulations. It is on the rate of increase of these accumulations and their proper distribution that the successful completion of the Seven-Year Plan for the development of the national economy of the USSR largely depends. Therefore, in the operation of enterprises and in economic and financial planning, much more attention should be given to production costs and to making production more profitable. Material incentives are of great importance as a means of improving the financial returns of enterprises, of achieving the greatest possible economy of social labor and of making effective use of production funds.

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The profitability of an enterprise or of a given branch of the economy is measured by the magnitude of its net income in relation to production costs or to the value of the functioning production funds. Since increased profitability of an enterprise is secured through a more effective and economical use of all the production funds and labor, its profitability is a vital value index characterizing the results of its activity. The profitability of an enterprise is an indispensable premise for cost accounting, an essential form for providing material incentives to the enterprise.

V. I. Lenin linked the transfer of enterprises to cost accounting with "the insistent need for increased productivity of labor, the elimination of losses and the establishment of profitability of each state enterprise." (1) Enterprises which ensure increasing profitability of production are not only able to cover all necessary production expenses on time and to do so fully, but also have at their disposal their own resources for the reconstruction and expansion of production, and for the creation of bonus funds. As a rule, they settle accounts with other economic organizations on time and fulfill their financial obligations to the state.

Greater profitability of enterprises and branches of the economy leads to higher internal accumulations, which are a source of the growing expenditures of society for expanding and technically improving socialist production and increasing popular consumption. Therefore, acting on the decisions of the 21st Congress, the Communist Party focuses the attention of economic officials on reducing production costs and raising the profitability of enterprises, on strengthening their efforts to mobilize internal resources and economize on social labor.

The average cost of industrial products has declined substantially in the post-war period. This has made it possible to carry out four successive wholesale price cuts and to obtain approximately a pre-war wholesale price level for the means of production. Following the reorganization of management in industry and construction and accelerated technical progress, enterprises have begun to improve the fulfillment of assignments for reducing costs and to ensure higher rates of growth of accumulations. All branches of industry (except coal mining) are now profitable. Many branches of heavy industry are now more profitable than the light and food industries.

However, though the average profit rate in industry has risen, particularly in the post-war years, in some branches and individual enterprises of given industries it fluctuates markedly. Substantial differences in rates of profit also prevail for individual items. While in 1955 the average profit rate in the leading branches of heavy industry ranged from -2% to +18.6%, by the end of 1958 it ranged from -15% to +31.7%. The greater gap between the maximum and minimum rates resulted from the unequal rates of growth in labor productivity and reduction in costs, and in some measure also from wage increases in a number of industries.

Along with the higher average profitability in industry, there are still a number of branches in which unprofitable enterprises and types of production exist. The coal industry, the iron-ore and manganese mines, and production of agglomerates — all operate at a loss. The building materials industry is profitable chiefly in cement, slate, soft roofing and pipes, but a good many materials are still produced at a loss. In many areas the production of prefabricated reinforced concrete parts is carried out at a loss.

Unprofitable and barely profitable enterprises are the most difficult to manage, notwithstanding the fact that some of the losses incurred are not associated directly with the quality of the work of their personnel. Even when they fulfill cost assignments, the unprofitable enterprises often find themselves in serious financial straits because subsidies depend on fulfillment of plans by the profitable enterprises. Those that operate at a planned loss are also worse off than their profitable counterparts in respect to material incentives for employees. Therefore, the all-important task is to sharply reduce losses and to increase the profitability of barely profitable enterprises by a more rational location and technical reconstruction of enterprises, by improving the specialization and cooperation in production, by enlarging small enterprises and by greater economies of materials, fuel, etc. The conditions for realizing these measures in the current seven-year period are very favorable. The experience of the leading economic councils shows that enterprises can and should be made more profitable and losses eliminated by reducing production costs, which at many enterprises are not yet on a par with the level achieved and the opportunities held out by present-day production.

The target figures for national economic development in 1959-1965 provide that production costs of industrial goods shall be reduced by no less than 11.5% and construction and assembly work by at least 6%. In industry, there is every indication that these cost assignments can be fulfilled and substantially overfulfilled.

As is evident from the economic and financial indexes for 1957-1958 and 1959, the majority of the enterprises of all economic councils are steadily improving their work. During this period industry overfulfilled assignments for raising labor productivity and reducing production costs, ensuring marked accumulations over and above the plan.

Utilizing the necessary staffs and material-technical resources in their respective economic districts, the economic councils are able to solve successfully the tasks of industrial development and to achieve major economies of materialized and living labor per unit of output. They can make better use of raw materials and reduce transportation costs, systematically improve the organization of production, promptly reallocate labor with a view to using it most effectively, combine small enterprises into larger ones, and so on. A particularly important factor promoting the reduction of production costs is that nowadays problems connected with reconstruction and technical improvements are handled more efficiently. That is evident from the mass movement which developed on the initiative of a number of economic councils. In 1959, for example, 27 automatic and semi-automatic lines, 37 production and conveyor lines, and 443 units of special and aggregate equipment have been installed, and 1,300 machine-tools modernized at the enterprises of the Rostov Economic Council alone. The mechanization and automation introduced by this council has saved more than 200 million rubles in 1959.

An immense economic effect is obtained on a national scale by combining small shops and enterprises as well as building organizations. After abolishing 121 shops (including 60 foundries and 37 mixing shops) and concentrating production in the economically more profitable large specialized enterprises and shops, the Moscow Economic Council increased output of castings by 24 thousand tons and alloys by 16%. The twenty-two thousand square meters of floor space freed are being used to expand the output of various manufactures. The Leningrad Economic Council combined 121 enterprises employing about 60,000 people. These measures lead to reductions in production costs, both as a result of higher productivity of labor and more rational utilization of material resources, and also by substantially reducing overhead expenses.

Costs are greatly reduced by the improved specialization and cooperation in production which is being carried out by economic councils. In the light of the decisions of the June (1959) Plenary Meeting of the CC of the CPSU, specialized enterprises will be set up for the manufacture and procurement of parts; more and more enterprises are specializing in some given line of output. The development of specialization requires further improvements in the system of distribution of labor and cooperation of enterprises, which will not be confined to the framework of separate individual economic districts.

However, in the planned development of specialization and cooperation due consideration should also be given to cutting transport costs. If the radius of cooperation is excessively increased, it will lead to higher transport expenditure and may reduce to naught the savings obtained from specialization. Hence, the determination of the optimum size of production at the specialized enterprises of the respective economic districts is of great significance. The problem should be tackled with an eye to the many-sided development of the economic districts and the most effective inter-district distribution of labor, with due consideration for raising the profitability of production in industry as a whole.

The favorable opportunities for overfulfilling cost reduction assignments during the current Seven-Year Plan are linked with accelerated technical progress — the decisive factor in increasing labor productivity and reducing costs. Wholesale prices have dropped most noticeably at engineering enterprises thanks to the successful introduction of new techniques and the reduction, on this basis, of production costs. However, in the engineering industry, too, the opportunities for reducing costs are still ample. Thus, the metal waste in the production of machinery is still high. Such a laborious and expensive operation as cutting consumes roughly half the labor expended on the production of machinery. Furthermore, millions of tons of metal are lost in shavings. These losses come to more than 200 billion rubles. More extensive precision casting, hot and cold punching, welding and other progressive methods will reduce the metal waste and cut production costs in machinery.

Further reductions of production costs in the engineering industry largely depend on speedier mastering of new techniques and on cutting down production expenses. At times it costs from 50% to 100% more to turn out and master a new machine than to make a similar old type. Thus, the production costs of some improved models of machine-tools at such a leading enterprise as the Krasni Proletari Works during the first year of their manufacture are double and triple those of similar machines in production. Sometimes, the production costs of new machine-tools drop three and more times during 5 to 7 years, and especially in the first years of their manufacture. Some executives accept this situation and even think it quite normal. Actually, a rapid decline in production costs is frequently caused by excessive expenditures in the early stage of production of new models and is evidence of great opportunities for increasing profitability in the engineering industry. Therefore, greater order in establishing temporary prices for new machinery and the implementation of the June decision of the CC of the CPSU on material incentives for swifter introduction of the new techniques in production and reducing expenditures for their manufacture are of great importance.

The temporary wholesale prices are usually established on the basis of the full cost of initial production of the new item, plus 5% profit, and are as a rule higher than the standing prices for similar items. This places the prospective buyer at a disadvantage. And since the profit of the producers of new machinery is, in the early phase of its production, lower than for the old, they are also not very much interested in increasing its output. The best solution of the problem would be to approximate temporary prices for similar instruments of labor to standing prices, considering that the realization of the product at its social value promotes the introduction of new techniques and prompts producers, after a given time (according to plan), to ensure reductions in production costs corresponding to the average branch level. The extra cost entailed in the manufacture of new items can be made good — when it is relatively small — by adding it to the production cost of the whole output of the given enterprise, and if relatively large, by including it in that of the enterprises of the branch administered by the economic council. We think this would be the best way out for the following reasons. First, the additional costs of new items would include the additional expenditures for wages, material resources, overhead and other expenses which, by their very nature, have to be included in production costs. Second, if these expenditures are included in the production costs of the whole output of the given enterprise, or in the production costs of the products of enterprises of the corresponding branch of the economic council, this would stimulate these enterprises to reduce expenditures on production and at the same time would be conducive to leveling out profitability among the new items and those already in production.

The implementation of the measures for intensified reconstruction and technical re-equipment of production, the dev opment of complex mechanization and automation outlined by the June Plenum of the CC of CPSU should bring about a marke decline in production costs in all branches of production and, above all, in the leading branches of heavy industry.

An important role in reducing production costs and increasing profitability is to be played by new technological processes which assure more intensive utilization of fixed assets. The significance of this reserve for increasing the profitability of production is clearly evident from the experience of a Leningrad plant which introduced a group method of processing parts and thereby doubled output in the past five years on the same production premises, and made 20 million rubles profit. Calculations show that if 1/5 of the country's machine tool supply is switched to group processing of parts, this would yield an economy of 3.5-5 billion rubles with relatively small expenditure on modernization of equipment.

An important factor in raising profitability of production in the economy in the current seven-year period is a more intensive utilization of the country's rich natural resources, an improved territorial location of productive forces and bringing industry still closer to raw materials sources and consumption areas.

Greater profitability of enterprises in industry and construction is closely bound up with increasing the effectiveness of capital investments, which should be accompanied by a growth of output, including the surplus product, for the same volume of capital expenditures. An increase in the effectiveness of capital investments is expressed in the growth of net income and a higher rate of profit. Suffice it to say that a mere change in the structure of the country's fuel balance, with due consideration for expanding production of the more economical types of fuel, will yield savings of 125 billion rubles in the seven-year period. Accelerated construction of thermal power stations instead of hydropower plants will save the national economy more than 20 billion rubles, and the replacement of locomotives by diesel engines about 45 billion rubles, etc.

Industry becomes far more profitable after reconstruction and expansion of existing enterprises. These measures are to be developed on a much greater scale. Hence, the planned assignments for reducing the cost of industrial products can be overfulfilled along with higher wages for some categories of factory and office workers. Therein lies a great reserve for accelerating the rates of expanded reproduction in the current seven-year period.

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In view of the large-scale reconstruction now under way and the efforts to improve production, prices will play a greater role in accelerating technical progress and increasing the effectiveness of capital investments, in improving production planning and stimulating better results in the management of enterprises. Wholesale prices of the means of production should be conducive to reducing losses and ensuring optimum profitability in all branches of industry.

Price is an important medium for regulating the rate of profit for given products and branches of the economy. In view of the increased productivity of labor and reductions in production costs, it is essential in the next few years to reduce the wholesale prices of some types of means of production, and primarily of machinery and equipment. This should promote technical progress. However, for some means of production wholesale prices ought to be raised so as to ensure complete recovery of expenditures and the necessary profits for enterprises. In this way the forthcoming changes in wholesale prices will differ from the previous four successive reductions.

The last sweeping wholesale price reduction for means of production was carried out in 1955. Since then, substantial changes have taken place in average production costs and rates of profit in a number of industrial branches as well as for individual products. There have appeared "profitable" and "unprofitable" items from the point of view of their costs of production; the number of items with excessive rates of profit has increased.

Unjustified discrepancies in the level of wholesale prices have an adverse effect on the management and financial activity of enterprises, weaken cost accounting and ultimately seriously handicap technical progress and the development of a nation-wide struggle for economies of social labor per unit of output.

The adjustment of wholesale prices for means of production presupposes a gradual elimination of the economically unjustified deviations of prices from the actual expenditure of labor in the production of commodities. This is unquestionably linked with calculating and planning an optimum level of profitability in the branches of industry. However, for many economists, including practical workers, this problem is still controversial and no basis exists for its solution.

We hold that the adjustment of wholesale prices in the next few years can and should be effected on the basis of average branch production costs and a planned rate of profit which is set with due consideration for the labor expended in production and which ensures the profit necessary for expanded reproduction in the respective branch of industry. Until recently, when revising wholesale prices, approximately the same percentage of profit was planned in relation to production costs without due consideration for the structure of production costs in the branches of industry. Hence, in branches where current expenditures on materials were a relatively large part of the cost of the commodity, the absolute profit proved to be greater than in branches where they were relatively small. Such planning of profits, which did not take into account actual expenditures for the production of goods in the given branch and its profit requirements to ensure expanded reproduction, placed enterprises of different branches in unequal conditions in regard to the formation and utilization of profits.

Improved planning of profitability on the basis of production costs is possible through the distribution of profits in amounts necessary to provide the respective branches of industry with adequate means for expenditures on capital investments, increase of working capital and the formation of various funds in proportion to expenditures of living labor and depreciation of the instruments of labor. In this case the standard rate of profit in relation to production costs will be different: it will be lower in branches where the share of expenditures on materials and fuel in production costs is high, and higher in branches where these expenditures account for a lesser share of production costs.

Determination of profitability in wholesale prices in relation to production costs of commodities, allowing for costs of materials and fuel, will ensure a better distribution of profits with due consideration for actual expenditure of fixed capital and living labor in the corresponding branches of industry, as well as the profit requirements of enterprises for financing capital investments and other requirements. In branches with a high organic structure of capital and a larger share of depreciation in production costs, the profit will suffice to ensure expenditures for reproduction on an enlarged scale. Consequently, more intensive technical progress, which is accompanied by a higher share of depreciation and a reduction in the share of expenditures for living labor in the cost of a unit of output, will not make production less profitable, as in the case of distributing profits in proportion to expenditures for living labor.

The interests of national economic development demand an improvement in price relationships among similar types of products with a view to stimulating the production and utilization of improved types of materials and fuels, and giving greater consideration to territorial peculiarities so as to ensure the normal functioning of enterprises and the promotion of the integrated development of every economic district. At the same time, the higher production costs of certain types of commodities (resulting from wage increases, shortening of the working day, etc.) require higher wholesale prices for such means of production as coal, the output of the ore-mining industry and the like. This will make it possible to reduce the number of enterprises operating at a loss or yielding little profit.

In order to further improve territorial management of production, it is very important to discuss such problems of price formation as the application of zonal prices, "accounting prices," recovery of transport costs, the use of prices for promoting contract discipline, etc. It would also be reasonable to discuss the question of the scope of price differentiation for given types of products designed chiefly for consumption within the economic district. These prices, while taking into account the differences in expenditures arising out of objective conditions, should not cover the needlessly high expenditures of poorly operating enterprises.

The forthcoming adjustment of wholesale prices for means of production is a difficult task closely related to a whole series of economic problems. Its proper solution requires a comprehensive analysis of the changes that have taken place in production costs and in the level of accumulation in given branches, at enterprises and in different industrial commodities. It is necessary, more carefully than was done on July 1, 1955, to determine the level of profitability for given commodities and branches of industry. We think this task should be tackled by establishing differential profit standards for different commodities and economic branches, with due consideration for the technical level of production and the rates at which labor productivity is increasing. Experience shows that in revising wholesale prices we should not be guided merely by the prevailing level of costs without analyzing the prospects of its changing. This leads to serious miscalculations and too frequent changes in wholesale prices, which complicates the planning of production and value calculations in the national economy, as well as weakening cost accounting and lessening the interest of enterprises in reducing production costs and in increasing profitability. Therefore, the envisaged changes in wholesale prices should be preceded by a thorough analysis of the level of production expenditures in the various branches of industry and the prospects for lowering them.

An analysis of production expenditures in the leading branches over the past few years shows that the forthcoming wholesale price reductions should not be considerable. Since no general reduction in retail prices is envisaged in the near future, and incomes will grow primarily through increasing wages of factory and office workers and the money incomes of collective farmers, large declines in wholesale prices for the means of production could widen the gap between the level of wholesale prices for means of production, which are below their value, and retail prices for articles of consumption. Higher wholesale prices for coal and certain other means of production will be followed by corresponding increases in production costs in other branches of industry. Hence, any significant cuts in wholesale prices in these branches might bring about unjustified declines in profitability.

As for the suggestions of some economists concerning a rise in general price level for means of production (Y. Kronrod, M. Bor and others), there is no need for this if we take into account the high rates of growth of labor productivity and profitability in heavy industry. Such an increase in wholesale prices would obstruct technical progress and the reduction of production costs, and would lead to still higher profit rates in branches of industry where revenues are already high.

The question of planning rates of profit in relation to average branch production costs or to the value of functioning capital is more complex and interesting. The problem, in our view, should be tackled, above all, by further improvements in the present methodology of planning profit rates. Such planning makes it possible to systematically co-ordinate the operating results achieved by enterprises and branches in value terms with their production expenditures. Changes in production costs reflect changes in actual expenditures of social labor per unit of output, and correspondingly, in the profitability of production, which increases on the basis of economizing on expenditures of social labor. It is, therefore, important to systematically adopt measures at every enterprise and construction site to enhance such economies in all the elements of production costs. In drawing up plans and analyzing reports, expenditures entering into the cost of output should be co-ordinated with the financial returns from the enterprises' operations. This co-ordination is ensured by comparing the net income (profit) with the production costs of the given items.

It should also be noted that such planning of profitability is closely tied up with fixing and changing prices. In determining prices of new items, the first thing to do is to properly calculate their production cost as the most important element of the price. It would be impossible to establish prices without appraising the cost and profitability of production.

However, all this does not exclude the possibility of making practical use of a profitability index established in relation to the value of functioning fixed and working capital. This index may be used, and is already being used, for planning and analyzing the economic and financial returns of enterprises and branches, and especially in determining the effectiveness of capital investments. But it should be regarded only as a supplementary indicator, for it cannot supplant the foregoing principle in planning profitability.

We cannot agree with Z. Atlas' suggestion of altering the present methodology of planning profitability. (2) First, planning profitability only in relation to the value of capital in production weakens the cost accounting principle of measuring results in value terms by comparing net income with expenditures in production. This may weaken control and the impetus to reduce production costs. Second, the significance of the foregoing index of profitability for the rational utilization of capital in production should not be overrated. In a planned socialist economy other economic instruments could be applied, including norms of output for a definite value of fixed capital.

Reduction of costs and a rise in profitability cannot be assured only by more effective use of capital production. The latter is only one of the factors involved in increasing the profits of socialist enterprises along with many others, which also influence the growth of the surplus product of society.

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The problem of increasing the profitability of industrial enterprises and the more rational application of the law of value for reducing expenditures of social labor per unit of output is closely connected with the planning of production costs and with determining economically sound assignments for cutting costs of production and increasing accumulations in accord with the present level of development of production. It is especially important to properly plan, at each and every enterprise, such vital indexes as the production cost of individual types of products and the whole of the commodity output on the basis of planned calculations for basic items and production estimates, the assignment for cutting costs, the overall volume of profits and the profit rates of enterprises.

Since the reduction of costs depends, above all, on the work of each factory collective, cost planning should be improved, first of all, at the enterprises themselves on the basis of the creative activity of their personnel. This will make it possible to work out cost assignments more effectively for given economic councils and Union republics, as well as for the whole of the national economy. Assignments for reducing production costs can only play a mobilizing role on the condition that they are worked out and established differentially for each enterprise with due account for the concrete conditions of production. Therefore, the average branch production costs used in planning prices (and especially average production costs for an economic council or republic) cannot be used as a concrete assignment for individual enterprises which differ markedly in size and in conditions of production.

Planning production costs at each and every enterprise signifies, in fact, establishing a definite quota or measure of expenditures for production which corresponds to its technical and economic level and operating conditions. Such costs are a major qualitative index of the economic and financial activity of the given enterprise, an indication of the efficiency with which production capacities, labor power and material resources are being used. Hence, every industrial enterprise must draw up both production expenditure estimates and cost calculations for major commodities. The drawing up, along with the calculations, of expenditure estimates is very important for revealing opportunities to reduce components of production costs, and permits a correct coordination of cost assignments with other indexes of the plan of the industrial enterprise. However, at some enterprises attention to the planning of costs appears to be weakening. At times enterprises do not prepare planned calculations of costs for individual items and do not draw up estimates of production expenditures. The provisions of the Seven-Year Plan and of the annual plans for national economic development (beginning with 1958) in respect to state assignments for expenditures per ruble of commodity output should not lead to a slackening of attention to the planning and accounting of costs at enterprises, including calculations for individual items and estimates of expenditure for production.

The indexes for reducing costs of comparable commodities under the current system of economic management, which until lately figured in the national economic development plans, are inadequate. The job of planning this index and of checking the realization of the plan for the whole of industry and for individual republics and economic councils is extremely difficult. If in the whole of industry the share of comparable commodities is roughly 90%, in the engineering industry, for instance, it is about 60%. For this reason, and also because of the differing groups of comparable products as applied to republics, economic councils and enterprises, the preparation of assignments for reducing production costs of comparable commodities under the territorial principle of industrial management is difficult, especially in drawing up long-range plans for national economic development. The introduction, in planning, of a new index in the form of expenditures per ruble of marketed output makes it possible to embrace the whole of industrial output and to reflect the changes both in production costs, assortment and profitability of goods. This index is, in fact, a reverse expression of profitability and characterizes its changes according to production costs, variations in assortment and changes in wholesale prices. It is doubtless an important element in the system of national economic planning and state control over the financial results of economic councils and industrial enterprises. However, it should be borne in mind that changes in expenditures per ruble of marketed output do not reveal the actual changes in production costs as compared with the preceding period. Studies of a number of enterprises show that expenditure per ruble of marketed output may decline while the production costs of the manufactured goods rise, and on the other hand, in some cases they may rise at a time when the enterprise is actually reducing production costs.

It is difficult to assess the fulfillment by enterprises of production cost plans because the actual output of goods in assortment and rates of profit at many enterprises deviate very substantially from the plan. If in estimating fulfillment of the plan, the planned assignment is not recalculated in accord with the actual assortment, many enterprises will not be interested in increasing output of new commodities which yield lower rates of profit. Therefore, fulfillment by enterprises of the stipulated assignment for expenditures per ruble of marketed output is determined in the following way: the planned assignment is recalculated in accord with the actually produced assortment, which means, in fact, a change in the plan of expenditures per ruble of marketed output. This provides loopholes for all sorts of violations of the planned assortment, including overfulfilling the plan for minor or unessential produce. Recalculation of the plan in a number of enterprises makes it possible to introduce substantial adjustments in expenditure assignments, which conflicts with the character of our plans. It should also be borne in mind that at times such a recalculation leads to non-fulfillment of assignments for accumulations and to artificial increases in above-plan profits. In the second quarter of 1959, expenditures per ruble of marketed output in the recalculated plan in many economic councils proved to be higher than in the approved plan. As a result, while the expenditure plan per ruble of marketed output was overfulfilled, the assignments for accumulation in some economic councils were not fulfilled. For example, in recalculating the planned assignment for the 2nd quarter of 1959 at the enterprises of the Tambov Economic Council it appeared that savings from reducing production costs in excess of the plan amounted to 6.5 million rubles while actually the profit for this period totalled 102.6 million rubles compared with the planned 105.8 million rubles.

The recalculation of planned assignments in expenditures per ruble of marketed output, on the basis of the actual assortment at enterprises producing a large variety of commodities, entails a number of difficulties. In fact, in determining the volume of commodity output at such enterprises the production program for all types of commodities is not calculated with any precision; this makes it difficult to properly assess fulfillment of the plan for comparable items.

Consequently, changes in the index of expenditures per ruble of marketed output, though important for planning the profitability of production, frequently do not reflect the actual results in reducing production costs. In our view, in elaborating plans for Union republics and economic councils this index should include cost assignments for major commodities, and in the case of enterprises, assignments for reducing costs of comparable commodities. In appraising fulfillment of the plan by each enterprise with regard to production costs and profitability two indexes should be taken into account: fulfillment of assignments in expenditures per ruble of marketed output and in reducing the cost of comparable output. These indexes supplement one another, and in assessing fulfillment of the plan by enterprises with regard to production expenditures and profitability, make it possible to reveal both the economies from reducing production costs as compared with past periods as well as fulfillment of the plan in respect to costs as a whole, including the cost of new items.

The simultaneous application of the foregoing indexes at industrial enterprises will not complicate planning, since the essential data may be derived from existing accounts. Furthermore, assessment of plans on the basis of these two indexes will focus the attention of factory collectives on the question of reducing production costs and will increase the effectiveness of material incentives for results achieved in reducing production costs and increasing accumulations.

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The question of material incentives for industrial collectives which fulfill cost-reducing assignments is very important in view of the task of intensive mobilization of internal accumulations.

The production cost of a commodity reflects in concentrated form the results of the utilization of materialized and living labor, the mobilization of reserves inherent in production. This index can be applied as a material incentive both at enterprises producing uniform commodities and those manufacturing a variety of goods, at enterprises where the manufacture of a commodity consumes a great deal of labor and little labor, at enterprises producing commodities requiring few and many materials, expensive and cheap goods.

However, until quite recently the efforts of factory collectives in cutting costs and raising profitability received little encouragement. Premiums were paid chiefly for fulfilling and overfulfilling output plans without considering qualitative indexes or, in particular, what was done in way of reducing costs. As a result, the sums expended on premiums were not co-ordinated with the sums saved from reducing costs. Some enterprises, obtaining no accumulations or savings from reducing costs, and operating with no profits, spent large sums on premiums.

At present the premiums system has been considerably amended. In conformity with the decision of the CC of the CPSU and the USSR Council of Ministers of July 2, 1959, premiums will be awarded to managerial staffs, engineering-technical personnel and employees for fulfilling and overfulfilling the cost-reducing plan, and in given branches also for improving quality, on condition that the plan is fulfilled in the stipulated assortment, in productivity of labor and also in respect to assignments for delivery of produce to enterprises of other economic districts, for cooperative supplies and supplies to meet the general needs of the state. In a number of branches of heavy and light industry premiums will also be paid for overfulfilling production plans. Consequently, the awards of premiums will depend, above all, on the results achieved in reducing production costs, and the size of the premium will depend on the degree to which the plan for reducing costs is overfulfilled. These new regulations will naturally focus the attention of managerial staffs and factory collectives on adopting organizational and technical measures for reducing production costs. This system will also eliminate past excesses in awarding premiums. In order to further improve the system of premiums it is necessary to also consider the results achieved by the enterprises in developing production techniques. This means that individuals and collectives will get smaller premiums, or none at all, when fulfilling or overfulfilling plans for reducing costs of old types of commodities, but fail to fulfill assignments for mastering new techniques.

It is also advisable to give greater encouragement to enterprises which achieve greater reductions in costs than were effected in the previous year. It is therefore necessary to determine more accurately the results achieved by enterprises in the way of reducing costs. It would not be right to pay premiums only for fulfillment of the plan for expenditure per ruble of marketed output on the basis of recalculations of the plan in accord with the actual assortmen. Hence, the model regulations for individual branches of the economy provide that premiums will be awarded with due account for fulfillment of assignments for reducing expenditures per ruble of marketed output in relation to the past year.

The question of the proper formation and utilization of the enterprise fund merits special attention. To begin with this fund should play a more stimulating role in working out really feasible planned accumulation assignments so as to rally factory collectives for bringing out all possible internal production reserves and for increasing the profitability of the enterprise. A good many proposals have already been made in the press about differentiating, according to branches, the assignments to the enterprise fund out of actual profits, of making them dependent on planned reductions in costs or expenditures per ruble of marketed output, on the actual increase in profits or economies from reducing expenditures in the current year as against the previous year, etc.

In most cases the suggestions for improving the practice of forming and using enterprise funds are designated to augme its role in reducing production expenditures and increase the profitability of enterprises. This, we think, is quite correct. However, in the present conditions of industrial development, when techniques at many enterprises are rapidly being modernized and there exist substantial differences in the level of individual costs and profitability, it would probably be difficult to form the enterprise funds on the basis of increased profits (or increased savings) compared with the preceding year. The rates at which costs may be reduced and profits increased are not the same everywher Thus, at enterprises mastering production of new commodi ties, the profit increase as compared with the previous year is frequently the same as, or even less than, it is at enterprises engaged in the manufacture of old items.

Higher profits, just as reductions in costs, in comparison with the past year also depend on the assortment of goods, the level of prices and other factors. All this place various enterprises in an unequal position in regard to the possibility of obtaining higher profits. Hence, it appears t be more correct to improve the practice of forming the enterprise fund by making it dependent on the enterprise fulfilling the planned profit assignment. Differentiation of the volume of deductions into the fund should be carried ou in branches of industry with due consideration for the mag nitude of profits and the factors determining it. But an en should be put to the situation in which big enterprises in heavy industry make smaller allotments to the plant's fun in relation to the number and wage bill of their employees than many enterprises in light industry. We think it wise to substantially reduce the gap between the volume of deductions from planned profits and above-plan profits so as to stimulate discovery of reserves for increasing accumulations in the process of elaborating production and financial plans.

In present-day conditions it is essential to raise still more the significance of profits as a vital factor in strengthening cost accounting and giving added weight to economic incentives at enterprises. The solution of this problem is closely linked with the utilization of profits to meet the needs of the enterprises themselves and to improve their distribution among enterprises by adjustment of prices and of the practice of differentiating the net income into income of the enterprise and the centralized income of the state.

In observing the principle of uniformity of wholesale prices for major means of production, the level of net income at enterprises producing similar commodities must inevitably differ by virtue of the unequal individual values and costs of the produce. Hence, the volume of profits of enterprises should not only be regulated by means of prices, but also by changes in the volume of the centralized net income used to meet the general needs of the state. This question arises especially in connection with the growing rates of profit in some branches, and also in connection with the specific features of the mining industry, where an additional net income is obtained as a result of better natural surroundings.

Profits are as yet inadequately used for expansion of production; this is largely covered through state budgetary allocations, especially in heavy industry. Since the major part of capital investments is diverted to heavy industry, which is the decisive factor in creating new values, it is appropriate in the future, too, to increase the profitability of enterprises in heavy industry and particularly in the extracting branches, where costs differ greatly and many enterprises still operate at a loss. In 1958, of the total profits of 188.4 billion rubles, 58.1 billion rubles, or some 10 times more than in 1946, remained at the disposal of economic organizations. In 1959, a total of 67 billion rubles is to remain at the disposal of the enterprises of economic councils and their branch administrations to be used according to plan for expanding production, improving techniques and housing, and for satisfying the cultural and other needs of employees. In the coming years the share of profits to be used to meet the needs of enterprises should rise in view of increased expenditures on new techniques and on expansion of existing enterprises. This can be secured, as is evident from the experience of a number of socialist countries, by various means: on the basis of planned calculations of the funds required by every enterprise for expanding production and forming appropriate incentive funds; by leaving to the enterprise a certain share of the increased profit (or part of it), differentiated according to branches, for technical reconstruction and other needs; by forming, out of profits, various funds essential both for technical reconstruction and for use as material incentives and for the satisfaction of the social and cultural requirements of the workers. Each of these methods is applied with due consideration for the specific features of industrial development in the particular socialist country.

Given the present large scale of expenditures for the reconstruction and expansion of enterprises, it is essential to coordinate in a planned way the utilization of material and monetary resources. The allocation, for this purpose, of part of profits on the basis of predetermined rates or the formation of corresponding funds may lead to a situation in which many enterprises experience a shortage of funds, while others have surplus funds.

Notwithstanding the differences in the use of profits to meet the needs of self-supporting enterprises in the socialist countries, the general laws governing the process have become clearly manifest. First, a substantial part of the net income of the state self-supporting enterprise is used to meet its own requirements while the rest goes to the state budget. Second, the net income of socialist enterprises is distributed in a planned way with due account for the need to meet the requirements of the enterprises themselves and of the whole of the national economy on schedule. Third, profit is a source of collective incentive funds for stimulating the workers to achieve the best economic and financial results in the operations of enterprises.

Higher profitability in the socialist countries leads to accelerated rates of growth of social production and increases in consumption. The object of socialist production is not profit, as is the case under capitalism; on the contrary, a systematic increase in net income and a higher profitability in production are important factors in implementing economic and cultural development plans, in improving the well-being of the people.

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Voprosy Ekonomiki - Problems of Economics - No. 11, 1959

M. Lifits:

Certain Questions of Commodity Circulation in the USSR at the Present Stage

One of the important economic problems requiring profound study at the present stage of communist construction is the problem of circulation of commodities. It will be remembered that until recently the sphere of circulation was reduced in our economic literature merely to the sale of articles of personal consumption and agricultural raw materials marketed by the collective farms. This concept failed to reflect the real economic relationships between Subdivisions I and II of social production and within each of these subdivisions, between the enterprises of the state production sector, etc. Recognition of the fact that the means of production circulating within the state sector are commodities has made it possible to reveal more thoroughly the economic content and organizational forms of the circulation of this part of the social product.

Experience shows that separation of the exchange function from production occurs in the circulation of all parts of the social product, i.e., not only of the products of Subdivision II of social production but also of the products of Subdivision I. The products of state enterprises are realized, and these enterprises are supplied with the means of production, by the respective marketing organizations. The collective and state farms purchase machines and machine parts, fuel, fertilizers, chemicals against weeds and pests and other commodities used for production purposes through the technical repair stations, the farm supply enterprises and other organizations. The commodity turnover of the technical repair stations in 1959 was estimated at 33.6 billion rubles. Some part of the commodities used for production purposes is sold in the countryside by the consumer co-operatives. Although, with the handing over to the technical repair stations of the function of selling to the collective and state farms the principal means of production, the sales of these goods by the consumer co-operatives decreased in 1958 by about 6 billion rubles, the consumer co-operatives continue to play an important part in supplying the countryside with farm inplements and building materials.

The separation of the circulation function also takes place in the sale by the collectivized countryside of the bulk of its marketable products. For this purpose there is an extensive network of state and co-operative organizations in our country. The existence of this network does not preclude a certain part of the output of the collective farms and the collective farmers from entering the consumption sphere without the participation of intermediary organization. However, the scale on which direct connections between the agricultural producers and the city consumers are maintained is gradually diminishing, and the participation of the producers themselves, particularly the individual collective farmers, in the realization of their products is decreasing.

The specific nature of the social relations developing in the process of circulation of the different parts of the social product determines the existence of various forms of trade: trade in the means of production (the so-called material-technical supply of the state enterprises and the scale of the means of production to the collective farms), procurement of farm products, trade in articles of personal consumption (state and co-operative trade, collective farm trade).

During the post-war years the role of the organized market in the realization of collective farm products has grown substantially. While the collective farm market accounted for 14.3% of the total retail trade of the country in 1940 and for 46% in 1945, in 1958 it dropped to 5.7%, although the absolute volume of business done on the collective farm market in 1958 was appreciably greater than before the war. In 1958 the physical volume of farm products sold on the collective farm markets outside the villages as a whole was 69% greater than in 1940. A substantial share of the marketed output of the collective farms is still being sold on the collective farm market. In 1957 the collective farms and the collective farmers sold on collective farm markets 56.5% of the entire marketed part of their melon crops, 40.8% of the marketed potatoes, 32% of the vegetables, 24.4% of the meat and fat, 46.2% of the eggs, etc.

Referring to the problems of collective farm trade, Comrade N. S. Khrushchev, in reporting to the June, 1958 Plenum of the CC CPSU, said: "While extending state trade, all necessary conditions should be provided for an extension of collective farm trade in order to enable the collective farms to realize their surpluses directly on the collective farm market. This does not mean, however, tha each collective farm must itself trade on the market. Thi should be done mainly by our consumer co-operatives in an organized way, so that it benefits the state, the collective farmer and the consumer."

The role played by the consumer co-operatives in the realization of the collective farms and farmers' marketed products is still too small. It is, therefore, intended to take measures to considerably expand the scale on which the work of the consumer co-operatives is carried on. As early as 1953 the consumer co-operatives began to practice the sale of products of the collective farms and collective farmers on a commission basis. Commission trade relieves the collective farms and farmers of the need to deliver their surpluses to the city markets, saves them the labor and time spent on the realization of their products, and thereby enables them to devote more time to direct production of material goods. Centrosoiuz estimates show that, when selling a ton of livestock products through the consumer co-operatives, the collective farms save themselves between 170 and 300 rubles in money and between 8 and 12 workdays in time, and 128 rubles and 9 workdays when selling a ton of vegetable oil. The benefits derived b the collective farms and farmers from this form of marketing have led to a steady growth of commission operations by the consumer co-operatives. The turnover of commission trade rose from 2.2 billion rubles in 1954 to

9.4 million rubles in 1958. The share of commission trade in the total volume of sales of farm products on collective farm markets outside the villages correspondingly increased from 4% to 17.6%.

The development of commission trade is in the interests of the city consumer too, prices on the commission market being lower than those on the collective farm market. According to a sample investigation carried out by the USSR Central Statistical Administration, commission trade prices in 102 cities during the first quarter of 1958 were 16% lower than collective farm market prices, during the 2nd and 4th quarters 17%, and during the 3rd quarter 20% lower.

In 1959 commission trade began to be accompanied by co-operative purchases. The consumer co-operative organizations, after fulfillment by the procurement organizations of their calendar plans of purchases of farm products, buy the collective farms' and farmers' surpluses at prices developing at the points of purchase, but not exceeding the existing state purchase prices. The purchased products are sold to the city consumers at state retail prices. Co-operative trade has been broadening the opportunities for the planned realization of collective farm products; at the same time, it represents a higher stage of development of commodity relations between town and country than collective farm market trade.

As a result of the expansion of state purchases of agricultural produce, extension of decentralized purchases by trading organizations, development of commission trade, reduction of prices, etc., the proceeds of the collective farms and farmers from the sale of produce directly on the market have been declining ever since 1956. At the same time the volume of collective farm produce realized through the channels of the organized market has been steadily increasing.

With the growth of the role of the communal collective farm economy in meeting the needs of the collective farmers and the shift to the system of monetary payment for the work of the collective farmers, the character of collective farm trade will change. The role played by the collective farms in the realization of their produce on the collective farm markets will be considerably enhanced. This will create the prerequisites for regularity of the trade on the collective farm markets and for an expansion of the collective farm stationary trading system. The inter-farm enterprises involved in the processing of farm products will be able to dispose of part of their output through this network. A new type of trading enterprise, inter-farm stores and stalls, will appear on the collective farm markets.

The growing volume of farm output, coupled with the measures taken by the socialist state towards the economic regulation of the circulation of commodities, will be instrumental in bringing the prices on the collective farm market closer to the state retail prices, and collective farm trade will increasingly resemble the other forms of Soviet trade.

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The development and consolidation of the socialist economy is accompanied by an extension of the sphere of money-commodity relations in the country. This process is occasioned not only by the absolute growth of the social product and that part of it which is marketed by the industrial and agricultural enterprises, but also by the replacement for natural relations in the sphere of distribution and exchange by money-commodity relations. The monetary share of the total mass of incomes distributed in the collective farms is growing steadily. The money proceeds of the collective farms increased from 42.8 billion rubles in 1952 to 131.8 billion rubles in 1958. Between 1952 and 1956 alone the monetary payment per workday increased by more than 2.7 times.

Many collective farms have adopted new, more progressive forms of labor accounting and pay, making the collective farmers more interested materially in increasing the output of their farm and leading to further organizational and economic consolidation of the collective farms. Guaranteed monthly payments in money in place of payments for workdays are becoming more and more widespread. The transition to monetary payments for labor and the decline of payments in kind represents an important factor in the extension of money-commodity relations between city and country.

The change to guaranteed monetary payments for labor in the collective farms and the reduction of the share of payments in kind in the distributed part of the consumption fund not only extends the money-commodity relations between city and country but also the circulation of commodities within the village itself, and in the first place between the collective farms and the collective farmers.

An ever-growing number of collective farms have been fully adopting the system of monetary payments for the collective farmers' labor and the sale of the necessary products to them. Some of the collective farms have opened special stores for this purpose. This broadens the framework of collective farm trade, which is no longer limited to the sale of farm produce to the non-agricultural population but increasingly involves intra-village turnover, i.e., the circulation of commodities between the collective farms and the collective farmers. The sale of products to the collective farmers by the collective farms is made at prices fixed by a general membership meeting of the collective farm.

The sphere of natural relations has been substantially reduced as a result of the abolition of payments in kind for the work done by the MTS. Prior to the decision of the June, 1958 Plenum of the CC CPSU, large quantities of grain and other farm produce used to be delivered to the state in payment for services rendered to the collective farms by the machine and tractor stations. In this case the exchange between city and village was effected in a non-monetary form. The MTS services rendered in the process of production were compensated by the collective farm in kind, i.e., by the output which the workers of these stations helped to produce. With the inclusion in the sphere of commodity circulation of the grain, potatoes, sugar beets, and raw cotton formerly received by the state in the form of payments in kind, the turnover between city and village in these kinds of agricultural produce in 1958 increased by no less than 15.8 billion rubles.

The policy of unrestricted selling of the means of production to the collective farms has resulted in considerable changes in the economic turnover between state industry and the collective farms. Not only has the sphere of money-commodity relations been broadened, but important changes have taken place in the structure of commodity circulation between city and village. The share of means of production, particularly instruments of labor, in the total mass of industrial goods bought by the collective farms has grown substantially. This, in turn, affects the structure of the indivisible funds of collective farms and the distribution of the expenditures on agricultural production.

With the establishment by the collective farms of an extensive network of enterprises engaged in processing farm produce (canneries and oil-presses, cheese dairies, vegetable pickling shops, etc.) the assortment and mass of produce sold by the collective farms is growing, and greater opportunities are created for the fuller utilization of the labor resources of the collectivized village and for the extension of direct ties between the retail trading organizations and the collective farms.

The part played by the circulation of commodities in meeting the material and cultural needs of the population is growing in importance. Both in the city and, particularly, in the country, consumption is being increasingly denaturalized, i.e., to resort to a Leninist treatment of this concept, natural consumption is being transformed into a monetary one. Domestic bread-baking is being replaced by bread produced by state and co-operative bakeries; the network of catering establishments is growing; production of ready-to-cook and pre-cooked products is expanding, etc.

The process of the further development of money-commodity relations in the period of all-out communist construction is characterized by a number of important features. As our country advances towards communism, a gradual change is occurring in the relationship between that part of the personal consumption fund which is distributed in accordance with the work contributed by the individual members of society and the part provided independently of their participation in social labor. Although distribution in accordance with labor remains, at the present stage of communist construction, the guiding principle of distribution of material goods, the share and importance of that part of the consumption fund which the members of society receive irrespective of their labor contribution continually grows. The increase of this share of the consumption fund is the communist way of improving the well-being of the working people; it serves as an important prerequisite to the gradual transition to the communist principle of distribution, "from each according to his abilities, to each according to his needs."

Inasmuch as distribution under socialism is carried out in the presence of money-commodity relations and on the basis of the value categories inherent in a commodity economy, the increase of the share of the social product distributed independently of the labor contribution does not lead to any shrinking of the sphere of commodity circulation in the country. This share may be divided into two parts. One of these is received by the population in the form of money (pensions, stipends, grants), the other is received in kind (maintenance of children in boarding schools, kindergartens and nurseries, instruction in vocational schools, building of houses, schools, recreation centers and hospitals, etc.).

Pensions, stipends and different kinds of grants do not differ in the form of their further use from that part of the consumption fund which is distributed on the basis of labor. Persons receiving pensions, stipends and grants exchange, in the sphere of circulation, or, to be more exact, in the sphere of retail trade, the part of the consumption fund which they receive in the form of money for goods required by them. The movement of that part of the consumption fund which goes to maintain boarding schools, kindergartens and other communal and cultural institutions, etc. is also connected with the circulation of commodities, but the commodity relations here arise not between separate individuals and society, but between the socialist enterprises themselves (the communal and trading organizations and the enterprises). This sphere of commodity relations will expand faster than the sphere of commodity circulation in which the exchange of the people's personal incomes for goods takes place.

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The great program of further advances in the material and cultural standards of the working people mapped out by the 21st Congress of the CPSU confronts Soviet trade with big and responsible tasks. Soviet trade must meet ever more fully the mounting demand of the population, being always alert to the changing structure of this demand. Workers in Soviet trade must study deeply the shifts occurring in the sphere of consumption and exercise a powerful influence upon the producing organizations with a view to coordinating the volume and structure of production with the volume and structure of the effective demand of the population prevailing in this or that period.

The trading organizations must make full use of the right granted them to refuse to accept from industry goods which are not in demand, or which do not conform to the standards and technical conditions prescribed for them. Those forms of contact between trade and industry which have vindicated themselves (participation in production planning, organization of exhibitions, sales by order, etc.), should be utilized more widely. With the reorganization of industrial management, the setting up of economic councils and the transfer to local administration of a large number of factories producing consumer goods, trade has gained much greater opportunities for effectively influencing production.

The question of revising the planning of consumer goods production must be solved. Resolute measures must be taken to counteract the widespread tendency to increase the volume of production in value terms while ignoring the assortment of production prescribed by the plan, using expensive raw materials, etc. It would be advisable, therefore, to apply to a wider range of goods the system of production planning established several years ago with regard to clothing items. In fixing plans for enterprises producing consumer goods, it would be advisable to proceed from the labor expenditures required for the production of these goods, while the gross output index reflecting the total expenditures should be used as an accounting factor only. Experience has shown that this system of production planning makes for an increase in the output of the required assortment of goods and for better quality.

The task, set by the Party, of substantially improving the services rendered to the population by the trading organizations requires a further improvement in the forms and methods of work by these organizations. This means that all commodity resources must be drawn into circulation, the trading network must be broadened and properly located, and the retail establishments be relieved of some of their functions. Wide use should be made of the new, more progressive forms of trade (self-service stores, automatic selling devices, purchases by order, hand delivery of goods, etc.), which increase the turnover and improve the service while reducing the time and labor spent by the consumer in shopping.

Improvement of the business relations between trade and industry, systematic study of consumer demand by scientific methods, introduction of new, modern methods of catering to the buyer, are essential conditions for the preparation of the distributive machinery of communist society.

Let us examine at greater length such a pressing problem of the further development of commodity circulation as the volume of commodity resources and their distribution among the various links of the trading system and the different parts of the country. On January 1, 1959 the value of the consumer goods stocks in wholesale and retail trade was 197.8 billion rubles. Commodity stocks in the USSR constitute that part of the social product which is in constant flow in the channels of circulation for the purpose of meeting the needs of production and consumption without interruption. A steady expansion of the volume of production and consumption depends upon an increase of the absolute volume of commodity stocks. A constant volume of stocks, accompanied by an expansion and growth of consumption, must lead to serious disproportions.

However, excessive building up of the commodity stocks in the sphere of circulation also disturbs the normal course of socialist reproduction. It is necessary, therefore, to bring the points of production closer to the points of consumption, to rationalize the movement of goods, to improve the work of the trading organizations, and in this way to accelerate the circulation of commodities with a view to keeping up this circulation with relatively small stocks.

The total amount of goods in stock in the country consists of the stocks at industrial enterprises, in the wholesale organizations, in the retail trade system and in process of shipment. There is a close connection and interdependence between the stocks held in the various links of the trading system. Stocks laid up at one of the links of the trading system block the way to the next consignment of goods. Under capitalism this is caused by anarchy in the entire process of production and circulation and the growing impoverishment of the working masses. Under the conditions of a socialist economy, with national consumption steadily growing, accumulation of goods in the sphere of circulation is a result of the supply of poor-quality goods to the trading system, improper assortment of goods, or the supply of goods to areas in which they are not in demand.

The shares of commodity stocks in the various links of the trading system are far from identical, their relationships changing with the economic development of the country. The turnover of state and co-operative retail trade in 1958 was 3.86 times greater than in 1940 (in prices of the respective years), while the commodity stocks in wholesale and retail trade increased 6.7 times during the same period, and those in retail trade alone increased 9 times. The increase in the absolute volume of stocks thus considerably outstripped the growth of retail trade. There was an increase not only in the absolute amount of stocks, but also in stocks in terms of days of retail turnover, from 61 in 1940 to 111 in 1958.

The growth of commodity stocks in post-war years has been due to a number of factors, chief of which is the increased production of consumer goods. There has been a sharp increase in stocks of goods which were in short supply only recently, but are in full supply at present, such as clocks and watches, radio sets, bicycles, cameras, staple cloths, etc. The increase of commodity stocks in retail trade (in days of turnover) between January 1, 1955 and January 1, 1959 was as follows: radio sets more than 4 times, bicycles nearly 3 times, etc. The composition of the stocks has also changed substantially. Between 1940 and 1958 the physical volume of state and co-operative retail trade increased by 174%, foodstuffs showing a 125% gain and other goods 259%. As a result, the share of goods other than foodstuffs in state and co-operative retail trade went up from 36.9% in 1940 to 45.4% in 1958, the increase being due largely to an expansion in the sales of durable goods of various types. This has been one of the reasons for the increase of stocks of commodities in the country.

While increases in commodity circulation in the post-war period have been recorded throughout the country, the increase in the Kazakh, Kirgiz, Tadzhik, and Uzbek Republics has been relatively more pronounced. In the USSR as a whole, retail trade between 1940 and 1958 increased 2.74 times, the Kazakh SSR registering an increase of 4.73 times, the Kirgiz SSR 3.68 times, the Tadzhik SSR 3.3 times, and the Uzbek SSR 2.82 times. These republics are located furthest from the centers of production of the goods consumed by them, and the commodity stocks there (in terms of days) are greater than the average level in the rest of the country. Retail stocks on January 1, 1959 averaged 83 days for the country as a whole, but amounted to 104 days in the Kazakh SSR, 102 in the Kirgiz SSR, 104 in the Tadzhik SSR, and 90 in the Uzbek SSR. The expansion of trade turnover in these republics leads to an increase in the total mass of commodity stocks in the trading system of the USSR.

Another factor affecting the dynamics of commodity stocks is the distribution of goods between city and country. The share of the consumer co-operatives, the principal trading organizations in the countryside, in state and co-operative retail trade increased from 24% in 1940 to 30% in 1958. The village stores are further removed from the points of production than the city stores; the circulation of commodities in the village proceeds more slowly than in the city. All this affects the relationships between the turnover and the stocks of goods in country trade and, therefore, also the general dynamics of commodity stocks.

Any change in the rate of turnover of commodities directly affects the volume of stocks in trade. The heightening of the role local industry plays in meeting the needs of the population in this or that region, an improvement in transport facilities, rationalization of the channels through which goods travel, the introduction of new, modern forms of supplying goods to retail trade, as well as new forms of retail trade services, all lead to a reduction in the period of circulation of commodities. In the countryside the same end has been served by a substantial reduction of the commodity stocks used as a counter-exchange fund to stimulate the delivery of farm produce to the procurement organizations. All this had a restraining effect on the growth of commodity stocks in terms of days of turnover.

Substantial changes have occurred in the post-war years in the way commodity stocks are divided between the various trading links. On January 1, 1941 the retail trade system held 56% of all commodity stocks in wholesale and retail trade, while on January 1, 1959 the figure was 75%.

The retail trade network is the main link in the Soviet trading system; the number of retail stores exceeds the number of warehouses and depots, so that most of the commodity stocks can be accommodated by the retail system. However, this great change in the distribution of stocks, which has taken place since the war, cannot be regarded as normal and is due in some measure to a lack of wholesale storage facilities. While commodity stocks in 1958 were 6.7 times greater than those in 1940, the increase in storage facilities amounted to only 67%.

The concentration of three-fourths of all commodity stocks in the retail system has its negative side. The diffusion of the vast mass of goods among hundreds of thousands of retail stores limits the possibilities for maneuvering with the commodity stocks, making wider use of the wholesale system for selecting the proper assortment of goods for the retail system, and for the rational distribution of the goods throughout the different parts of the country. While retail stocks (in terms of days of turnover) in 1957 were below those of 1955-1956 and exceeded by only four days those of 1950, in 1958 they again rapidly grew and exceeded the level of previous years. Retail stocks increased not only in the non-foodstuffs items (woolen and silk fabrics, radio sets, bicycles, leather shoes, etc.), but in some foodstuffs too (sugar, pastries and tobacco products, vodka, grape, fruit and berry wines). In some cases this was a result of normalization of commodity stocks, but in many other cases it was due to incorrect distribution of goods among the regions and trading organizations, as well as to stocking up of goods for which there was no demand.

The fact that goods are sometimes supplied to some regions without regard to local demand and the amount of commodity stocks already there is evidenced by the growth of the volume of business done by the intermediary trading offices. Thus, in the Russian Federation alone it went up from 2.7 billion rubles in 1955 to 7.1 billion rubles in 1958. It is well-known that part of the business done by these offices is connected with the transfer of goods from one region to another because of the absence of any demand for them in the region to which they had originally been sent.

The volume of commodity stocks at the beginning of 1959 exceeded the quotas fixed for them. A large part of these excess stocks consists of dry goods, drugs, printed matter, certain fabrics, clothes and cultural goods, as well as some foodstuffs. Thus, on April 1, 1959 the consumer co-operatives of the Russian Federation had extra stocks of perfumery, cosmetics and dry goods worth 820 million rubles. The plans of the trading organizations provided for the inclusion of a large part of these stocks in the turnover, and they have been used to replenish the stocks of the retail organizations.

The building up of excessive stocks in the trading system is due primarily to the production of unnecessary or low-quality goods by some factories and poor work on the part of the trading organizations, and in some instances also to incorrect price relations among some goods. It must be admitted, however, that the quotas of commodity stocks were too low. While a considerable change in the circulation of commodities in the country has taken place in recent years, necessitating a rise in the stock quotas, these quotas, which had been cut on January 1, 1955, remained unaltered right up to October 1959. By a government decision the quotas of commodity stocks in the retail system of state and co-operative trade were raised by 5 days beginning with October 1, 1959, and in the wholesale system of the union republics' trade ministries by 2 days.

These average quotas have been differentiated, in turn, for the various individual republics, territories (provinces) and for the different lines of trade. The fixed quotas of commodity stocks are subject to revision from time to time, because incessant changes take place in the sphere of commodity circulation. Changes occur in the composition of the mass of commodities, the degree of saturation of the market with various kinds of goods, and the circulation period; shifts may be observed in the distribution of the mass of commodities among the different links of the trading system and the different geographical regions. It is, therefore, one of the most important tasks of scientific and practical workers to elaborate scientifically-based quotas of commodity stocks for the various lines of commodities, differentiated by trading systems and economic regions. The question of the allocation of commodity stocks between the wholesale and retail systems also requires solution. It must be borne in mind that the new, modern forms of supply of goods to the trading system, which are rapidly becoming widespread, namely, centralized delivery and annular shipment of goods, and the growing inter-republican trade relations, strengthen the role played by wholesale trade in the system of commodity circulation. This, it is known, has made it necessary to solve the question of shifting part of the retail storage facilities to the wholesale organizations. The reallocation of storage facilities between retail and wholesale trade carried out in some of the cities has proved to be a step in the right direction, making it possible to maneuver more easily with the commodity stocks, to supply a wider assortment of goods to the retail stores, and simultaneously to reduce their period of circulation.

The continuous growth of industrial output in our country is accompanied by a broadening of the assortment of goods, by production of new types, models, fashions and colors. This leads to the demand shifting from the old to the new goods, the slowing down of the circulation of the old items and their stocking up in the distribution system. A peculiar process of "obsolescence" of certain types of goods develops on the market. Some commodities lose part of their use-value through remaining too long in the trading system and cannot be disposed of on equal terms with the newly manufactured goods. Considerable amounts of such goods accumulate in the trading system annually; they freeze the working capital of the trading organizations and clog up the warehouses. "Obsolete" goods may be disposed of by a reduction of prices. The trading organizations have been given the right to sell such goods at reduced prices at the expense of their accumulations, thereby reducing their excessive stocks. However, they have preferred to wait for prices to be cut at the expense of the budget, as the reduction of the profits made by the trading organizations involved would lower bonuses for their workers.

To speed up the sale of outdated goods and goods which have lost part of their original value, a fund to make up for losses from price cuts (equal to 0.2% of the retail turnover) has been provided for in the financial plans of the retail trading organizations and establishments, beginning with 1960.

An effective solution of these problems by the trading organizations themselves will make it possible to free the distribution channels of old stocks and reduce the volume of goods written off annually as no longer possessing use-value.

The slowing down of the circulation of commodities and the building up of excessive stocks are also due in some measure to discrepancies between the prices of similar goods produced by local industry enterprises and those under republican jurisdiction, still to be met with in some parts of the country. The retail prices of many locally manufactured goods are considerably above those of similar articles, specified in the government retail price lists. A check made by the Russian Federation Ministry of Trade has revealed that the retail price of a metal bed in Krasnoiarsk Territory is 335 rubles, against 241 rubles fixed fo such a bed in the government price list. The picture is similar in some other regions, too.

The large discrepancy between the prices of local industry products and the government price lists is due not so much to production conditions and a difference between the individual expenditures and the socially necessary expenditures involved in the production of a unit of output, as to the arbitrary inclusion of an excessive rate of profit in the price of the commodity. The price of a metal bed produced by local industry in Krasnoiarsk Territory included 105 rubles in profit, or more than 30% of the price. A toy automobile in the Sverdlovsk Region was sold at 14 rubles, the profit amounting to 6 rubles and 60 kopecks, or 123% of the commercial product costs; in the case of a toy electric engine the profit amounted to 104% of the production costs. This price-fixing practice constitutes a gross violation of government decisions on the retail prices of consumer goods produced by local industry and producer co-operatives. It disorganizes the circulation of commodities and leads to the building up of excessive commodity stocks. It

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R. Nazarov:

The Increasing Level and Changing Structure of Food Consumption in the USSR

One of the most important indices characterizing the well-being of the people is the level and structure of food consumption. During the years of Soviet rule the food consumption of the population of our country has vastly improved. As we know, pre-revolutionary Russia was behind many capitalist countries in per capita consumption. In czarist Russia the workers consumed a negligible amount of meat, milk, sugar and other staple foods. The Moscow and Ivanovo-Voznesensk textile workers, for example, consumed an average of 12-15 kgs. of meat, 50-56 kgs. of milk and dairy products, 2-5 kgs. of fish and fish products (chiefly herring), etc., per head of the population a year. The basic foods of the textile workers were black bread and potatoes. The level for other working people was more or less the same. However, in 1913 Russia produced an average of 31 kgs. of meat, 185 kgs. of milk and 75 eggs, and the fish catch averaged 6.6 kgs., per head of the population. Hence, there was a great gap between the level of consumption of the toiling masses and the ruling classes. We should also bear in mind that czarist Russia was a major exporter of farm produce and raw materials. The workers and peasants went hungry while the foodstuffs they produced were shipped overseas, and the landlords, merchants, profiteers and their like waxed rich.

Following the immense social-economic transformations in our country, the expansion of the productive forces and the rising incomes of the working people, the level and structure of nutrition of the Soviet people changed most radically. Notwithstanding the tremendous damage inflicted on the Soviet national economy by the Hitlerite hordes, the Soviet Union swiftly erased the aftermath of the war and made rapid economic progress. Thanks to the measures of the party and the government in the field of agriculture, particularly notable progress in recent years was achieved in the output of major food products. This is evident from the following figures (per capita production; in kgs.):

	1953	1958
Cereals	435	683
Potatoes	383	418
Vegetables	60	72
Granulated sugar	18.1	26.3
Vegetable oil	6.1	7
Meat and fats (gross output in slaughter weight)	31	37
Milk (gross output)	192	284
Butter, total	2.6	3.8
Industrial output of butter	2	3.2
Eggs (gross output, in single units)	85	111

Under socialism, when the object of production is to satisfy the ever-rising wants of the people, increased production leads directly to a growing level of consumption. As a result of the higher output and increased incomes of working people in town and country, the average per capita consumption of foodstuffs in the USSR has changed as follows in recent years (1958 in percentage of 1953):

Crops	
Bread grains (in flour)	93
Potatoes	87
Vegetables and melons	119
Vegetable oils	116
Sugar, including sugar in confectionery	125
Animal Products	
Meats and fats	120
Fish and fish products	129
Milk and dairy products (calculated in milk)	136
Eggs	138

The foregoing data show that food consumption by the population of the USSR has not only increased quantitatively but has also changed qualitatively; the consumption increase is most marked in the highly nutritious products. Insofar as in certain foodstuffs we have not yet reached the level corresponding to scientifically-based norms, consumption of bread and potatoes is still relatively high. However, with the increased per capita consumption of animal and other valuable foods, consumption of bread and potatoes is gradually declining, which shows that the structure of nutrition in the USSR is improving.

The improved structure and quality of nutrition is most evident in the chemical composition and caloric value of the products consumed. A proper diet means a food content of proteins, fats and carbohydrates, as well as minerals and vitamins, corresponding to the physiological requirements of different categories of working people. The approximate calculations of the chemical content and caloric value of foods consumed in our country carried out by the Research Institute of Trade and Public Catering show that the quality and the structure of the diet of Soviet people are steadily improving. Between 1950 and 1958 the consumption of animal proteins increased by 29% and of fats by 55%, with the result that the caloric value has risen appreciably.

The ever-increasing output of staple foods is reducing the gap between actual consumption and the rational (physiological) norms of nutrition.

In his report to the 21st Congress of the party, N. S. Khrushchev said that the Soviet economy is now able to ensure in the near future a better life for all Soviet people and to meet more fully their material and cultural wants.

Production of basic foodstuffs will increase very considerably in the coming seven years. In 1965 output of meat and fats will total 71 kgs. per head of the population, that is, it will increase 87% as compared to 1958; milk will amount to 466 kgs., or an increase of 67%; eggs 164, or an increase of 45%; sugar 44 kgs., or an increase of 69%; fish and fish products 20 kgs., or an increase of 50%. The rates of industrial and agricultural development envisaged in the Seven-Year Plan will make it possible to greatly increase per capita consumption of foodstuffs. In the seven-year period consumption of the basic foods per head of the population will increase as follows (approximately): meat and meat products 1.9 times, milk and dairy products 1.7 times, eggs and fish products 1.4 times, sugar 1.5 times, vegetable oils 1.6 times, vegetables and melons more than two-fold, etc.

The growth of the average per capita consumption of the population will be accompanied by important changes in the structure and qualitative content of the diet. Thus, going by the rough calculations of the Research Institute of Trade and Public Catering, the structure of the population's diet in caloric value will change as follows in the seven-year period:

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	Share of the respective products in the total caloric value of all products (in %)		
	1958	1965	Rational norms
Crops			
Group I			
Bread products	52.4	39.8	34.9
Potatoes	9.2	5.9	5.8
Total	61.6	45.7	40.7
Group II			
Vegetables and melons	1.4	2.6	2.6
Fruits	1.1	2.0	3.6
Vegetable oils	4.4	6.1	5.3
Sugar	9.6	13.9	11.0
Total	16.5	24.6	22.5
Animal products			
Meat and meat products	7.6	10.1	11.9
Milk and dairy products	11.8	17.2	21.4
Eggs	0.7	0.9	2.1
Fish and fish products	0.7	0.9	1.0
Total	20.8	29.1	36.4
Other foodstuffs	1.1	0.6	0.4
Total, all items	100	100	100

The relatively high share of bread products and potatoes in the general diet is to some extent due to historically-explained national traditions of our population. In the course of the current Seven-Year Plan the structure of consumption will change noticeably, with highly nutritious animal and crop products taking a higher share in the diet.

At the end of the seven-year period such valuable and highly nutritious products as meat, milk, butter, vegetables and fruits will prevail in the diet. The quantity of nutritious substances — proteins and fats — in the diet of the population is approaching the rational, scientifically-based level. The total caloric value of the foods will also conform to the physiological norms.

At the September (1953) Plenum of the CC of the CPSU N. S. Khrushchev said that solving the problem of a scientifically-based diet was a pressing problem. "We must," he said, "achieve a level of consumption which will be based on a scientifically-substantiated diet essential for the all-round, harmonious development of a healthy human being. Hence, the vital task is to improve the structure of consumption by primarily increasing the production of animal products and vegetables." The implementation of the Seven-Year Plan will create the conditions which will make it possible to solve this problem and to proceed to the organization of a rational diet on a national scale.

Scientifically-based norms of per capita consumption are a component part of the fundamental economic task of the Soviet Union. It should be noted that in the economic competition with the most developed capitalist countries we must not consider our goal to be the level and structure of the diet in those countries. In the capitalist countries, as we know, the average per capita figures on consumption conceal contrasting extremes: poverty, hunger and malnutrition on the one hand, and riches, luxury and satiety on the other. The "average" magnitudes do not characterize the actual consumption of the bulk of the population, whose diet in both level and structure differs radically from the level and structure of consumption of the ruling classes. Comrade N. S. Khrushchev mentioned in his report at the 21st Congress of the CPSU that the unemployed man in America gains nothing from the fact that his country produces a lot of meat, butter, television sets and motor cars per head of population. The lion's share of all produced wealth in the capitalist countires is appropriated by the exploiters and their hangers-on. "Figuratively speaking," said N. S. Khrushchev, "when we expand production each 'head' in the country really benefits from it, whereas in the capitalist states it is the richer 'head,' the 'head' with capital, that derives the benefits from greater production. A 'head' with no capital will live from hand to mouth even when production rises. This is what they call 'equal opportunities' under the capitalist system — some get richer and others starve. This is a pattern that is quite compatible with the laws of capitalism and is considered normal and natural."

Insofar as consumption of the population in the bourgeois countries reflects the antagonistic contradictions inherent in capitalism, and the data published in these countries do not characterize actual consumption, a mechanical comparison of those data with actual consumption in the USSR would be entirely incorrect.

In evaluating the level and structure of food consumption in the Soviet Union it is essential to proceed from scientifically-based norms elaborated by Soviet physiologists. These norms are affected by numerous factors — economic and climatic considerations and national customs (the structure and composition of the population, labor conditions, the ratio between the urban and rural population, prevailing customs and traditions, etc.). All this will influence the level and structure of the population's diet in our country, as a result of which they will differ from the level and structure of food consumption in other countries. Even within our country the structure of the population's food consumption in the various regions differs appreciably: in the northern regions it is different than in the south, and in the eastern regions it is different than in the west.

Under the impact of these factors the variety of products necessary to meet the needs of the population in food substances (proteins, fats and carbohydrates), as well as in mineral substances and vitamins, changes. Thus, in the pre-war period the average physiological potato consumption norms were 120 kgs. compared with the present 103 kgs., vegetables and melons 110 kgs. and 153 kgs. respectively, fish products 37 kgs. and 14.2 kgs., milk and dairy products (excluding butter) 283 kgs. and 322 kgs., meat and meat products 75 kgs. and 85 kgs., and so on. Needless to say, the existing norms today cannot remain constant either. With the improved material well-being and cultural level of the Soviet people, changes in living and labor conditions and in the age structure of the population, with the all-round development of the Soviet economy, the food norms and the consumption of people will change quantitatively as well as qualitatively.

Scientifically-based food norms designed to ensure the all-round and harmonious development of people are the basis for determining the volume of industrial and agricultural production of consumer goods. This requires systematic adjustments in the calculated norms in conformity with the latest scientific developments in nutrition, changed economic and other conditions of life of the population.

It can already be said that in some nutrition norms substantial changes have to be made. For instance, actual consumption of sugar in 1965 will exceed 40 kgs., whereas the average per capita physiological norms amount to 27-33 kgs. It stands to reason that when the 1965 sugar output is attained people will consume more sugar than the presently defined physiological norms.

Take another example. As noted above, the structure of the population's consumption in the Soviet Union will gradually improve through the increased consumption of animal products, vegetables, fruit and berries. Hence, there can be no justifiable reason for calculating per capita consumption norms of potatoes in the Belorussian SSR at 220 kgs., in the Lithuanian SSR at more than 170 kgs., etc. If a rational diet is established there will be no need for extremely high norms of consumption of potatoes in the individual Soviet republics.

The foregoing examples show that the present physiological food norms require further adjustment, with due consideration for the prospects of our country's development and the effect this will have on the living conditions of Soviet people.

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The measures taken by the Communist Party and the Soviet government to improve living standards require a careful study of the present level and the future growth of food consumption in the individual republics and economic regions of the country. This will form the basis for the proper planning of production and disposition of food resources in order to increasingly equalize consumption of major food products in the various regions of the country, with due consideration, of course, for climatic and other conditions.

Today, the level of consumption of various food items in the various economic and geographic regions is not the same by a long shot. This is due to a number of factors. In the northern regions, for instance, the caloric content of foods must be higher; the people there use more fats than in areas with a warm climate. Nor is the caloric content and the composition of food the same throughout the year. Many products are interchangeable, and therefore a higher consumption of one product entails a corresponding drop in the consumption of another. The volume of per capita consumption of specific products is still largely dependent on the degree of industrial specialization of the economy and on the specific conditions of economic development in the particular region, or national customs, etc. Thus, in places where stock breeding is highly developed the consumption of meat, milk and eggs is relatively high. In districts where natural and climatic conditions favor the production of milk and potatoes, the population consumes these products in considerably larger quantities (Belorussian and Lithuanian SSRs) than the people in other regions (the Central Asian and Trancaucasian republics). However it would be a mistake to abide strictly by the existing structure of consumption, which developed under the influence of industrial specialization and specific national features of the individual regions. The level of per capita consumption of staple foods must correspond to the rational (physiological) foods norms for the given economic and geographic area.

In present-day conditions, when the degree of development of the country's productive forces is not yet adequate to ensure an abundance of all food products everywhere, one of the basic factors determining the structure of consumption in given areas is the level of development of agricultural production and the specialization of its branches. Since, in the Baltic republics, for example, output of meat and dairy products prevails, the level of consumption of these items is relatively higher than in other republics. However, with the growth of output of farm products in the USSR these territorial differences in the level and structure of the population's consumption will gradually disappear.

A major problem is that of overcoming differences in the consumption of the urban and rural population. This is particularly important for abolishing substantial distinctions between town and country. The socialist system eliminated discrepancies between town and country, created the conditions for a rapid rise in the living and cultural standards in the rural areas, for radically transforming life in the countryside, for drawing labor and living conditions in town and country closer together.

Life for the collective farm peasantry is improving from year to year and their material and cultural wants are being increasingly satisfied. However, the level and the structure of consumption of the urban and rural population still differ. With the development of agricultural production, the increased incomes of the rural population and the general improvement in the material well-being of the Soviet people, these distinctions will be eliminated.

The consumption of food products by collective farmers is now determined primarily by the volume and structure of farm production in the given republic, region, etc., as well as by the structure of their incomes. The per capita consumption data show that products of crop origin account for a higher share of consumption in the rural areas than in the urban localities.

The policy of the Party and the government to equalize the living standards of working people in town and country is reflected in the accelerated growth of sales of manufactured products, including foodstuffs, in the villages. In this connection, the share of state and co-operative trade in the total consumption fund of these products is gradually rising. The following example is characteristic in this respect. The share of state and co-operative trade in the total consumption of milk and dairy products increased from 25% in 1950 to 43% in 1958. Correspondingly, the share of the private household plots of collective farmers and of the milk obtained from collective farms dropped from 50% to 40%. It should also be borne in mind that with the development of food enterprises in the collective farms, the wants of collective farmers for various dairy products will also rise. At present roughly 66% of the dairy produce consumed by collective farmers consists of whole milk; consumption of other products (butter, cottage cheese, sour cream, cheese, etc.) is relatively small, especially in comparison with the rational (physiological) food norms. With increased agricultural production and the development of commodity-monetary relations in the countryside, the money incomes of the collective farmers will acquire greater significance and then it will be possible to alter the structure of consumption of the village toilers in a planned way.

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In the successful implementation of the program for improving living standards, mapped out by the Communist Party, Soviet trade will play an important role. Trade satisfies the requirements of the Soviet population not only in respect to non-foodstuffs, but also in relation to the bulk of food products. While in the total balance of individual consumption of meat, milk, eggs, bread, potatoes, vegetables, melons, fruits and berries, items obtained from private household plots and from the collective farms (in the form of payments for workday units) still play an important part, in all other foodstuffs the decisive role belongs to state and co-operative trade. Therefore, the satisfaction of the continuously growing wants of the country's population largely depends on the development of trade turnover.

In the current seven-year period the retail trade turnover is to rise from 677 billion rubles in 1958 to 1,080 billion rubles in 1965. This increase will result from the greater marketable commodity supplies of state and co-operative trade, and the greater money incomes of working people in town and country. The marketable supplies of basic foodstuffs will grow substantially. In 1965 the average sales of meat and meat products per capita of the non-agricultural population through the state and co-operative trading network will rise almost twofold; milk and dairy products will increase by 67%, eggs by 78% as compared with 1958; the sale of fish and fish products per head of the population will increase by 42%, sugar by 65%, confectionery by 42%, and vegetable oils by 82% in comparison with 1958.

The increase in marketable supplies calls for a further extension of the trading network and its better operation. It is particularly important to increase the storehouse facilities of trading organizations, which at present suffer considerable losses for lack of suitable premises for storage of goods. This also explains the seasonal nature of the sales of certain food products. The preservation of products and improvement of the trade services rendered to the population are now matters of paramount importance.

In addition to the state and co-operative trading network, a large amount of food is also purchased on the collective farm markets and is obtained from private household plots. However, the role of these sources in meeting the needs of the non-agricultural population is gradually declining. The share of collective farm market trade and the produce from private household plots in the total consumption fund of the non-agricultural population has diminished as follows: in meat and meat products from 44% in 1950 to 33% in 1958, milk and dairy products from 46% to 18%, eggs from 65% to 60%; appreciable reductions have also taken place in the case of potatoes and vegetables. This undoubtedly results from improved state and co-operative trade in these products. With the further development of state and co-operative trade the significance of the aforementioned sources in meeting the needs of the population will lessen.

With the steadily increasing role of state and cooperative trade in meeting the public's needs in consumer goods, the question of the proper, well-founded territorial distribution of commodity supplies is becoming ever more urgent. As we know, in the last few years important changes have taken place in the practice of planning trade and, especially, in distributing commodity supplies. The excessive centralization in this sphere has been done away with. Following the abolition of the USSR Ministry of Trade the rights and responsibilities of the republic Ministries of Trade and their local bodies for the proper planning of commodity supplies have increased. However, serious shortcomings still prevail, for many methodological questions of planning trade turnover and distributing commodity resources have not yet been solved.

Sound planning of the regional distribution of commodity resources requires not only the study of the total volume of effective demand, the systematically changing demand for commodities, the volume and structure of industrial and agricultural production, the size and composition of the population, but also the level and structure of consumption of foodstuffs and other commodities by the population as a whole and by individual groups. In addition to other economic indices, the data on the level and structure of actual consumption will permit the planned regulation of the population's consumption. The proper planning and distribution of commodity resources, especially in view of the present high rates of expansion of consumer goods production, necessitates a careful study of the laws of development of consumption. Hence, it is necessary to continue the work of improving the methodology and methods of calculating the level of the people's consumption of food and other products. In this field there are still a number of unsolved problems which make it difficult to calculate the actual level of the population's consumption. Thus, for example, in determining the level of consumption in given regions, account should be taken of the volume of imports and shipments of products from one region or republic to another, the volume of purchases by the rural population in the urban trading network, the qualitative content of the food consumed by the population of a given region (chemical content and caloric value), etc.

Unfortunately, there does not exist at present an adequate accounting base for the study of these problems. The budgetary statistics do not provide the necessary materials either. The fact is well known, for instance, that the rural population spends part of its money incomes in the urban trading network. According to the data provided by the Research Institute of Trade and Public Catering, the share of the purchases of some commodities by the rural population in the urban state trading network fluctuates from 20% to 35%. The Institute has worked out a system for calculating the volume of purchases by the rural population in the urban state trading network which boils down to the following: on the basis of statistical data on the budgets of collective farmers and workers, the share of the urban and rural population in total purchases is determined, following which the entire volume of commodity sales through the state and co-operative trade, calculated from reporting data, is distributed accordingly. A comparison of these data with those on the sales of commodities makes it possible to establish the volume of purchases by the rural population in the urban trading network. Notwithstanding the provisional nature of such a calculation, it nevertheless reflects the volume of commodity purchases by the rural population in the urban network. This method, of course, will have to be developed further.

A proper estimation of the volume of imports and exports of food products from one republic (territory and region) to another is an equally important methodological problem in calculating the population's food consumption supplies. As we know, some trading organizations ship part of the farm produce they purchase from collective farms and collective farmers outside the republic (territory, region). Frequently, consumer co-operative organizations also ship the farm produce of collective farms and collective farmers which they take on commission to other republics (territories, regions) or, on the contrary, bring in produce from other areas. Furthermore, a part of the products are shipped out of the republic (territory, region) by the collective farms and collective farmers themselves for sale on the collective farm markets. This inter-republic (inter-region) trade turnover should be taken into account in determining the consumption funds of the population of given republics (territories, regions). However, no system of this kind has as yet been worked out. In estimating consumption funds the volume of imports and exports of individual produce is determined from estimates based on the statistical materials at the disposal of trading organizations, collective farm market managements and transport organizations. We think that one important source characterizing the volume of imports and exports could be the special accounting of the geographical origin of imports of agricultural produce at the urban collective farm markets conducted by the USSR Central Statistical Administration.

The Research Institute of Trade and Public Catering and the Markets Department in Moscow kept a record of the geographical origin of farm produce brought to Moscow markets in 1957. These records show that the farm produce came to the markets from 80-odd regions, territories and republics, with 60% from the Moscow Region, 14% from the Kaluga, 20% from the Riazan, Tula, Kalinin, Orel, Tambov and Lipetsk Regions, and 6% from other areas. It follows from these figures that the bulk of the farm produce in Moscow markets comes from the Moscow and nearby regions.

At the end of the current year the USSR Central Statistical Administration carried out a similar special investigation of more than 1,000 markets. The results will certainly help to determine more accurately the volume of farm produce shipped to and from one republic (territory, region) to another. It would be a good thing to conduct such studies at least two or three times a year (in different seasons) and for a period of no less than a fortnight. These recordings of the geographical origin of imports will yield a more graphic picture.

The data on the actual consumption of food and other commodities by the population are becoming increasingly important in planning activity. At present the USSR State Planning Committee, the USSR Central Statistical Administration and the Research Institute of Trade and Public Catering are working on problems of consumption. Republic and regional statistical and planning bodies are also working out per capita consumption norms (in limited numbers). However, so far there exists no center to coordinate this work. Two years ago the journal Kommunist published an article by Comrades Sapelnikov and Serebrennikov, which, in our opinion, rightly dwelt on the need for setting up a State Council on Food Consumption. We think that it would be best to establish such a Council under the USSR State Planning Committee, and not only in a consultative capacity but as a permanent body which would coordinate all the work connected with the study of the problem of the diet and also of the consumption of non-food commodities in the USSR. The Council should include representatives of the USSR Central Statistical Administration and their research institutes working on consumption problems.

One of the tasks of this Council would be to elaborate scientifically based nutrition norms for given natural and economic zones of the country. So far such norms have been worked out only for union republics. Quite naturally, it is impossible to establish the same physiological norms for the whole of the population of the Russian Federation because some regions differ very markedly in climatic conditions, national traditions and in other ways. Therefore, the time is ripe for elaborating more differentiated scientifically-based nutrition norms. However, the Council would also have the job of working out problems of organizing the rational nutrition of the population on a national scale, of determining the role and prospects of developing public catering, etc.

A thorough analysis of the problems of organizing food consumption will help to steadily improve the living standards of the Soviet people.

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Economic Conditions for Introduction of Money Payment for Labor of Collective Farmers

In the last few years the Communist Party has been paying special attention to improvements in the organization, economic potential and management of the collective farms. Implementation of the measures outlined by the 21st Congress of the CPSU and by the Plenary Meetings of its Central Committee has greatly advanced collective farm production: gross output and marketable production have been growing continuously and there has been a marked improvement in the living standards of the collective farmers. The target set for agriculture by the Seven-Year Plan should enable it to satisfy in full the requirements of the population for food and of industry for raw materials, and to meet other needs of the state for agricultural produce.

Along with other important questions connected with the advancement of the collective farms and increases in agricultural production, the forthcoming Plenary Meeting of the Central Committee of the CPSU will consider economic problems arising in connection with improvements in the system of payment for labor on the collective farms. Of great theoretical and practical value, in particular, is the new, progressive form of payment, namely, guaranteed money payment, which is an important incentive for stimulating the material interest of the collective farmers in the development of their common economy.

Initiated quite recently, payment for labor on the collective farm calculated in terms of money wage rates has been rapidly spreading. Only a few collective farms changed over to payment in money in 1957; their number grew to scores in 1958 and to several thousand in 1959. The great interest of the collective farms and of their members in the system of guaranteed money payment and the initial results produced by this system indicate that it accords more than any other system with the requirements of the stage of development reached by the collective farm system.

Payment in money offers a number of advantages as compared with the distribution of incomes on the basis of the number of workday units earned on the farm. Evaluation of labor directly in money and monthly payments provides a much greater material incentive to the collective farmers. Payment for labor in money makes it easier to introduce cost accounting in collective-farm production, to draw up statements of incomes and expenditures without any imputed estimates, to calculate the costs of production on the collective farms, gross and net incomes and the profit level of the enterprise. The transition to payment in money has been attended by a marked advance in labor discipline and productivity on the collective farms, by improvements in the planning of production and finance on these farms.

The origin and development of the system of money payment is a natural result of the substantial economic advancement of the collective farms in the last few years and of their commodity-money relations with the state. Wider use of this form of payment should be organically connected with a system of measures intended to ensure still greater economic progress of the collective farms, to raise all the collective farms to the level of the most advanced ones; account should also be taken of the real possibilities of the state in providing credits, commodities, etc., to the collective farms.

The conditions necessary for providing a basis for payment in money on all the collective farms are: establishment of the socially necessary level of payment for labor on the collective farms of all the zones and economic groups; adoption of properly assessed production quotas and rates of payment; a stable standard of payment for labor for each year, equal provision of means for settling accounts throughout the year and an adequately high marketable production which makes money the leading factor in the total income of the collective farmers.

The first two conditions necessary for the adoption of payment in money are dealt with in this article.

Level of Payment for Labor of Collective Farmers

The magnitude of the personal consumption fund in the socialist society is determined by the national income and objective requirements for expenditures for enlarging production which predetermine, for a given moment, the most favorable distribution of the national income between the accumulation and consumption funds.

The distribution of the total consumption fund among the working people is differentiated with due account for the complexity and intensity of specific varieties of labor. Accordingly, a definite socially normal level of payment for labor, depending upon skill and intensity, takes shape (depending upon the concrete conditions attending the development of the productive forces).

Socially normal payment for labor corresponding to the principle of distribution according to labor is as objectively necessary on the collective farm as it is at a state enterprise. Failure to observe this requirement, as, for example, a considerable reduction of the actual level of payment for labor as compared with the socially normal one, leads to a withdrawal of labor power, to a decline in activity and in the productivity of labor. A decline in the productivity of labor and inadequate use of labor power is caused also by a substantial deviation of the actual payment for labor in the opposite direction. The question of the socially normal level of payment for labor becomes especially pressing in connection with the transition of the collective farms to the universal money form of accounting with the collective farmers.

In economic literature one often comes across the opinion that the transition to the money form of payment for labor can be successfully accomplished by any collective farm, irrespective of the level of its economic development. This implies that whatever the calculations underlying the rate of payment, its money form of itself is bound to provide a greater incentive to the collective farmers. This viewpoint has been disproved by practice. The latter shows that money payment for labor becomes a greater incentive to the collective farmers, provided its level is sufficiently high.

One criterion for the socially normal payment for farm labor could be provided by the corresponding payment in the state farms. Of course, objectively necessary proportions of social evaluation of labor of varying quality are not fully reflected in it, but, as compared with the situation in the collective farms, the system of payment for labor in the state farms undoubtedly represents a considerable step forward.

At the same time, the limits of socially normal payment for labor are much wider where cooperative property prevails. It is, therefore, impossible to demand of separate collective farms the same strict unification of payment for labor as in the state farms. On the economically stronger collective farms the payment for labor may be higher than the average wage of the state farm workers. In some cases, the need for higher payment for the labor of the collective farmers in comparison with state farm workers is determined by the concrete conditions existing for separate groups of collective farms. The situation prevailing at some suburban collective farms situated in direct proximity to big industrial enterprises may serve as an example. On the other hand, in a great many collective farms the necessary material incentives are provided even when payment for labor is lower than on the state farms.

Average payment for labor on the collective farms has been growing comparatively fast in the last few years, as is evident from the following figures (in % of 1954):

	1955	1956	1957	1958
Payment for the collective farmer's working day	129	155	153	169
Annual income of an adult able-bodied collective farmer	127	139	145	161
Average number of working days a year	98	91	95	95

The average level of payment for collective farmers' labor in the USSR today is more than two-thirds higher than in 1953-1954; this stimulates the interest of the collective farmers in the development of their common economy.

At the same time, payment for labor on the collective farms lags behind payment for similar labor of state farm workers, and still more behind the wages of industrial workers. In this connection, an important part in the budget of the collective farmer's family is still played by the incomes from his household plot. Notwithstanding its low productivity owing to the use of hand labor, the collective farmer's personal household plot is comparatively profitable, inasmuch as its marketable produce is sold at prices prevailing on the collective-farm market. The result is an excessive development of the personal household plot of the collective farmer in some of the republics and, in consequence of this, the marked lower contribution of his labor to the common economy of the farm.

Of course, the income from the personal household plot helps to raise the living standard of the collective farmer. However, what is important to the socialist society is not only the general magnitude of the incomes obtained by separate groups of working people. What is of great importance is the source of these incomes, their relationships to the labor expended by the working people and the direction in which this material incentive propels the working people. When a substantial part of the incomes is derived from the small personal household plot while payment for labor on the collective farm is comparatively low, this creates an internal contradiction, since the personal interests of the collective farmer are counterposed to the interests of the socialist society as a whole. One of the consequences of this contradiction is the diversion of a part of the collective farmers' labor from the highly mechanized collective farm to the sphere of primitive, inefficient small-scale production.

Many collective farms that are passing over to guaranteed money payment for labor at present are at the same time limiting, with the consent and by the decision of the collective farmers, the size of their homesteads. This initiative is correct, in our opinion. It is especially important for those districts in which the incomes of the collective farmers from their personal household plots include a considerable portion of differentiated rent of type I (Georgia, the Kuban, etc.). Nevertheless, the main way of raising the material interest of the collective farmers in highly productive labor on the collective farm is an increase in their incomes from the collective farm. At the new stage in the development of the collective farms, which requires the full mobilization of the creative energy of the working people by providing greater material incentives in particular, it becomes important to raise payment for labor of the collective farmers approximately to the average level of payment for labor on the state farms.

It should be noted, in this connection, that the process of equalizing payment for the working day on the collective farms and on the state farms has slowed down as compared with 1954-1955. And yet the expansion of collective farm production should be accompanied by a growth of the funds allocated for distribution, which would make it possible to achieve in the current seven-year-plan period an approximately equal payment for identical labor on the collective farms and on the state farms.

Furthermore, the labor of the collective farmers is not used in full throughout the year. In 1954-1958, each able-bodied collective farmer worked on the average no more than 15-17 days a month on the common property of the collective farm, and, far from declining, the idle time of the collective farmers even increased slightly during this period. One of the factors behind the inadequate use of the collective farmer's labor in the common economy is seasonal work in farming which makes it impossible to distribute the work load evenly throughout the year. An average of 15.5 million, or 68% of the total number of collective farmers (in terms of able-bodied adults), worked on the collective farms in 12 months of 1957. Fuller use of the labor of all the collective farmers in the common economy of collective farms would serve as an important source for furthering the development and economic progress of the collective farms and for raising the incomes of the collective farmers.

The transition to monthly payment in money for the labor of the collective farmers lends special urgency to the problem of the fuller use of their labor. The collective farmers insist on greater assignments, but the administrations of the collective farms are not always in a position to meet these demands, especially in the autumn and winter months. It is therefore necessary to give urgent consideration to questions connected with the proper specialization of production, with due account to be given to the amount of labor expended during the seasons on specific types of production, to the organization of collective-farm and inter-collective farm enterprises for processing agricultural products and producing building materials, to combining labor on the collective farm with various jobs on the side (timbering, road building, processing of farm products at state factories, etc.).

Zonal Differentiation of Payment for Collective Farmers' Labor

Differences in the average skill of the workers and the intensity of their labor are determined by natural and economic features of specific zones of the country (nature of the soil and climate, average size of land units, the level of mechanization). These differences, just as the nature of the conditions necessary for the reproduction of labor power in one or another zone of the country, affect the average payment for labor in specific regions. Nevertheless, differences in the nature of the collective farmer's labor in different zones of the country are comparatively small. And yet the differentiation in payment for the working day of the collective farmer in different economic regions of the USSR is quite substantial. In the last two years (1957 and 1958), it was three times greater on the average in the Kuban, Stavropol Territory and in the Altai Territory and four times greater in the Astrakhan Region, than in the Tatar and Bashkir Republics, in the Pskov and Smolensk Regions, in the Byelorussian and in the Lithuanian SSR's, and amounted to 95-99% of the corresponding indices in the state farms.

The explanation which is often offered for the zonal differentiation in the payment for the labor of the collective farmers is the differing productivity of their labor, and it is argued that the higher the productivity of labor, the highe should be the pay. But this explanation is indicative of an incorrect understanding of the socialist principle of distribution according to labor.

Payment for labor in the socialist society is really connected closely with the level of labor productivity already achieved. The rate at which payment for labor grows in society as a whole, and to a considerable degree also in separate enterprises, is determined by the growth in the productivity of labor. The widespread application of the piecework system and of the timework plus bonus system ensures higher earnings to workers who achieve a high productivity of labor, given equal objective conditions of production. But the productivity of individual labor does not, nor can it, serve as the only criterion for its social evaluation. It should be taken into account only to the degree to which it is determined by the skill and effort of the worker.

Zonal differences in the productivity of farm labor are determined primarily by objective factors, i.e., factors which do not depend upon the collective farmers. At present, however, these differences exert a definite influence upon the level of the individual earnings of collective farmers, and on the rates of economic development of collective farms in different zones of the country. This is shown by the following data on the classification of regions and republics in 1957 on the basis of the gross incomes of the collective farms per expended working day (in % of group I):

Groups of regions and republics	Gross income per working day	Average payment per working day of collective farmer	Technical equipment of labor and rates of accumulation		
			Value of basic means of production per able-bodied collective farmer	Value of annual accumulation of a collective farm	
				Per able-bodied collective farmer	Per 100 rubles of value of basic means of production
I	100	100	100	100	18.6
II	153	162	123	160	24.1
III	243	232	160	289	33.3

Given equal skill, intensity of labor, and the same degree of participation of the collective farms in formation of general state funds, the realized gross income per expended working day should be approximately equal to all zones. In reality, however, it is 6 times greater in some individual regions and republics than in others, and 2.4 times greater on the average in some of the large groups of districts than in others.

In districts where the gross income is below average, payment for the collective farmer's labor is also the lowest: it is 1.6 times below the general average for the USSR and 2.3 times below the average for the higher group of districts. The level of the realized gross income determines the possible amount of collective-farm accumulation. As may be seen from the above data, the size of the realized gross income is doubly interconnected with the provision of the collective farm with basic means of production. The lower the gross income, the smaller are the possibilities of the collective farms as regards accumulation, and the lower is the provision of the means of production and the technical equipment of labor, the smaller is the gross production and the income realized by the collective farm. In districts where the technical equipment of labor is lower, accumulation takes place not only in smaller absolute amounts, but also at lower rates in relation to existing volumes of the means of production. Conditions are thus created for a further increase in the gap between the productivity of labor and the economic efficiency of production at collective farms in different zones.

Differences in payment for the labor of collective farmers in different zones have become less pronounced in the last few years, but they remain quite substantial to this day. In order to judge the extent to which these difference reflect the specific nature of labor in one or another zone, it will be useful to compare zonal differences in payment for labor on collective farms with corresponding indices of the state farms. Average payment for the working day of the collective farmer (for 1954-1955 and 1957-1958) and of the state farm worker in relation to the corresponding USSR average was calculated for each region (republic), and the percentage of districts in which payment for the labor of the working people employed in one or another sector deviates from the USSR average by 25, 50 and more per cent was then determined. The weights adopted were the number of able-bodied collective farmers and state farm workers employed in each region. The results of these calculations were as follows:

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	Years	% of districts with payment for the working day (in % of the USSR average)				
		Up to 50	51-75	76-125	125-175	176 and higher
Collective farms	1954-1955	5.9	35.6	41.8	14.4	2.3
Collective farms	1957-1958	—	27.2	51.5	18.2	3.1
State farms	1957-1958	—	4.2	95.3	0.3	0.2

As the above-cited data show, the levelling out of the collective farmers' earnings in different zones is a slow process. Moreover, the relationship between average payments for the labor of collective farmers in separate districts remains practically unchanged, as is evident from the following figures:

Classification of districts in the USSR by average level of payment per working day on collective farms in 1954-1955	Payment per working day in % of the average for the USSR			Payment per working day in 1957-1958 in % of 1954-1955
	1954-1955	1957-1958	Increase from 1954-1955 to 1957-1958	
Lower	69	69	71	147
Average	103	105	109	148
Higher	135	134	133	146

This table shows that the districts which in 1954-1955 lagged behind with regard to the average level of payment for collective farmers' labor were unable to overcome this deficiency in the years that followed. The relative growth of incomes of the collective farmers in all the groups is approximately the same, while the absolute increase in the payment per working day is higher in the districts where it was higher before.

Cooperative property makes it difficult to achieve a direct centralized redistribution of incomes among collective farms of different zones, but the state has at its disposal powerful economic levers which enable it to regulate the development of the collective farms indirectly. By means of these levers it is possible to level out zonal payments or labor in the collective farms (without reducing them in any districts of the country) within a period of 3-4 months. To this end it is necessary, in our opinion, to carry out the ollowing measures.

Calculations of production costs in the collective farms arried out lately by the Central Statistical Administration nd the Ministry of Agriculture make it possible to raise the uestion of further improvements in the system of state purchase prices for these products. Existing purchase prices or some agricultural products predetermine entirely diferent profit levels. For example, the average purchase price paid by the state in 1958 for 1 centner of potatoes ensured to the collective farms 24% of accumulations over the production cost, which includes payment for labor at the tate farm level. Purchase prices for grain ensured 52% f accumulation, for cotton — 102%, for long fiber flax — 162%, and for sunflower seed 363% in relation to the costs of production. On the whole, the profitability of food crops sold to the state amounted to 48% and of the industrial crops 116%, whereas in so important a branch of agriculture as livestock farming purchase prices did not cover production costs.

A system of prices which ensures an extremely high profit rate in some branches of agriculture while other equally important branches are run at a loss cannot ensure the correct development of agriculture; in particular, it weakens the material interest of the collective farms in the development of livestock farming. It is no secret that in many districts of the USSR the development of livestock farming is financed from the incomes derived from other branches of agricultural production, from the cultivation of industrial crops primarily. For example, in the non-black soil regions of the central part of the country the development of livestock farming is financed from incomes derived mainly from flax, and in the black-soil regions of the central part of the country from the incomes derived from sugar beet cultivation, etc.

The great differences in the degree of material incentives given by the state to separate branches of agriculture constitute one of the main factors behind the different profit rates of collective farm production in general in large zones of the country. Thus, in Uzbekistan and Turkmenia, whose cotton makes up 80-90% of the marketable production, the collective farms, after covering production expenditures (with payment for labor on a level equal to stage farm wages), receive an additional 90-124% in net income or accumulation. On the other hand, collective farms in the Urals, where animal husbandry produce constitutes 85% of the state deliveries, operate at a loss and are unable to sustain a socially normal level of payment for the labor of collective farmers. Elimination of these extremely great differences in the relative profit rates of separate branches of production is, in our opinion, an important prerequisite for assuring normal conditions of reproduction in collective farms in all zones of the country.

Of equal importance for the solution of this problem is a correct differentiation of state purchase prices for the same products according to zones; this should properly reflect the real costs of production in each concrete zone. Let us take grain, for example. Owing to a number of climatic and other natural factors, as well as to organizational and economic factors, the average production cost of 1 centner of grain in the collective farms of the Northwest is, as a rule, several times greater than the production cost in the North Caucasus. Zonal differences in the production costs of one and the same amount of agricultural produce are determined by the natural fertility of the soil, the length of the vegetation period, the number of sunny days a year, the average size of the fields, which in their turn determine the possibility of comprehensive mechanization of production, requirements of the soil for organic and mineral fertilizers, etc. It is clear that so long as society needs the produce of the collective farms situated in zones where conditions for agriculture are less favorable, it should ensure at least some minimum profitability for this production through the system of purchase prices.

The existing differentiation of purchase prices according to zones does not live up to this condition because it is inadequately effective. Thus, differences in the level of zonal grain prices do not exceed 40-45%, with the result that grain production yields colossal profits to the collective farms in the North Caucasus, the Ukrainian SSR and Moldavia (from 118% to 168% of production costs), while incurring a loss of 34%-57% for the collective farms in the north and northwest of the Russian Federation, in Byelorussia, Lithuania and Latvia. The situation is the same with respect to other items of production. For example, the purchase price for wool ensures to the collective farms a profit of more than 100% in the republics of Central Asia and a loss of more than 40% in the non-black soil central regions of the Russian Federation.

Naturally, state purchase prices for agricultural products must not by any means follow automatically the actual production costs prevailing in the zones. If this was to be the case, they would lose their significance as an incentive to the correct distribution of production, and, in particular, to the expansion in the first place of the area under those crops which may be cultivated with the greatest advantage in the given zone. The level of accumulation planned in the purchase prices for districts favorable for the cultivation of a given crop may be several times greater than in the less favorable zones. But compensation for the actual cost of production, including socially normal payment for labor, should be ensured in all districts where state purchases of agricultural products are made. A more flexible zonal differentiation of purchase prices would make it possible to raise the economic efficiency of the currently lagging regions without increasing general allocations.

Of great importance in stimulating expanded reproduction in the collective farms is, along with prices for farm products differentiated according to zones, an economically justified specialization of production corresponding to the concrete conditions of each zone. Distribution and specialization of agricultural production, which assure a harmonious blending of the interests of the national economy as a whole with the specific interests of each enterprise, afford possibilities for a great saving of social labor, for raising its productivity and, at the same time, for stimulating the material interest of the collective farms and of their members in the development of production. It does not mean, for example, that the state should pay three times more than the average price of grain to collective farms in the Baltic republics in order to enable them to run their farms at a profit. It is far more profitable to leave this grain at the farms for use as concentrated fodder for livestock, and to buy from the collective farms far more valuable products, such as milk and meat, produced with much greater economic effect in the given zone. However, the question of the correct specialization of agriculture is still awaiting its practical solution. The need for defining the concrete prospects of each farm in connection with the preparation of collective-farm seven-year programs at present lends special urgency to this problem. An economically correct approach to this problem is made possible by the experience already accumulated in calculating production costs and profit rates in the branches of production.

A proper inter-weaving of the interests of the national economy as a whole and of the interests of each enterprise is assured by combining state regulation of the specialization of production (we refer here to marketable production of the collective farms) with independent planning by the collective farms from below (the portion which does not relate to marketable production). The state influences the trend of agricultural production on the collective farms mainly by bringing down to the regions, districts and concrete enterprises the plans for state purchases of agricultural products. Ably using this lever, the state is in a position to concentrate the attention of the collective farms on the production of those items which are most necessary for the national economy and at the same time are profitabl in the given district. Much has been done to this end in the last few years, but proper order is still lacking in the determination of the quotas of obligatory purchases of various products in the different zones. That is evident in the counter-shipments of grain delivered by collective farms to the state and borrowed or purchased from the state for use as livestock feed (in the wooded and mountain zone of Bashkiria), purchases of considerable amounts of products in districts where their cultivation is conducted at a loss, lack of proper coordination between planned provisions for the delivery of production and the real production resources of the collective farms and the possibilities for processing and marketing production in the concrete conditions existin in various zones (Krasnodar Territory), etc. We believe it advisable to consider the question of a much greater differentiation of the quotas for the delivery of separate products to the state in different zones of the country, down to the possibility of the complete exemption of some of the districts from the sale of items the production of which is unprofitable in the given distict. Effective measures should at the same time be taken to ensure the consistent enforcement of the law on planning collective-farm production from below by giving greater freedom of initiative to the collective farms.

Implementation of these measures would, in our opinion, ensure within a comparatively short time the necessary conditions for expanded reproduction, and, in particular, for a socially normal payment for labor in the collective farms in all the zones of the country without exception.

Ways of Eliminating Intra-Zonal Differences in Payment for Labor on the Collective Farms

Payment for the collective farmers' labor differs not nly in different zones, but also within regions and repubics. Thus, in the Moscow, Smolensk, Gorky and Belgorod Regions studied by the Economics Institute of the Academy f Sciences of the USSR, differentiations in average annual ncome of the collective farmers in 1954-1957 were such hat for groups of collective farms with the maximum paynent for labor (including 10% of the collective farms in ach district) average incomes were 11, 5, 9 and 3 times reater, respectively, than for groups of farms with the ninimum payment for labor.

The measures taken by the Communist Party for the adancement of the economically weaker collective farms, nd primarily for changing the system of agricultural prourements, in 1958 helped to quicken the process of equalzation of the incomes of different groups of collective arms. The highest increase in incomes was achieved in 958 by the collective farms which had the lowest incomes efore.

In some districts (Altai Territory, for example) the inome differences between certain groups of collective arms which existed in 1956 and 1957 became very small in 958. They declined markedly in Krasnodar Territory, elgorod Region and elsewhere.

However, average data for districts reflect only the genral tendency in the development of collective farms with iffering economic potentials. In reality, hidden behind very average there is an uneven development of separate ollective farms. For example, in the first group of collecive farms in the Ramenskoe District of the Moscow Region he average income of a collective farmer in 1958 went up y 22% as compared with the two preceding years. In some ollective farms of this group the change in income for the ame period ranged from minus 61% to plus 97%. In the ourth group of the same district, where the average decline n incomes was 4%, the indices for separate collective arms changed from minus 42% to plus 56%. Moreover, here was practically no change in the differentiation of paynent for the collective farmers' labor from year to year. hus, in 1958 the annual income of the collective farmers n the advanced farms as compared with the backward arms (taking 10% of collective farms in a group) was nine imes greater in the Moscow Region, 4 times greater in the elgorod Region, while the corresponding differences in 954-1957 were 11 and 3 times greater.

One of the reasons for the differing levels and rates of evelopment of collective farms, given approximately idenical conditions, lies in the differing skill and organizaional abilities of the managers of these collective farms. rovision of experienced chairmen, team leaders and speialists is one of the most important means of advancing the agging farms. Greater differentiation of zonal purchase rices among the separate regions of each zone would also elp, in our opinion, to diminish the contrasts between the conomic positions of different groups of collective farms.

Nevertheless, conditions obtaining in each concrete farm annot be taken full account of in prices. A more flexible neans of redistributing the incomes of collective farms ith qualitatively different soils and different locations is he taxation system. By their economic nature, the income axes levied on the collective farms are a part of the net ncome credited to general state funds for the purpose of atisfying various social requirements. In practice, howver, the tax is assessed not on the net income but on the ross income of the collective farm, including expenditures or payment of labor. Given comparatively small differenials in tax rates, collective farms with inferior soils and ocated far away from points of delivery and railways find hemselves in a disadvantageous position.

It seems to us that it would be more correct to assess income taxes on collective farms depending on their net income, i.e., after socially normal payments for labor are deducted from the gross income. Further, greater differentials in tax rates are necessary.

In the last few years the collective farms have purchased considerable amounts of mechanical equipment, with the result that their provision with the basic means of production has increased several times over and the technical equipment of labor has grown. Accordingly, labor embodied in the means of production is beginning to play a growing role in determining the cost of agricultural produce. The better the equipment of one or another collective farm with machinery, farm buildings, motor transport, fertilizers, feed stocks and highly productive livestock, the lower is the cost of production on the farm, all other conditions being equal, and the greater is its net income (prices being equal), and, consequently, the rates of accumulation. Differences in the provision of the collective farms with reserves of accumulated past labor in combination with the group form of property account for the uneven development of separate collective farms. One of the consequences of this uneven development is the differentiation in payment for equal work performed by collective farmers.

At present, the fund for the payment for labor on the collective farms takes shape not as a part of production expenditures, but as a residue left over after other requirements are satisfied. That being the case, a certain number of the collective farms do not ensure to their members a socially normal payment for labor. At the same time, another group of the collective farms derive colossal incomes which do not correspond to actual labor expenditures. The additional income derived by these collective farms is nothing else than differentiated rent. But as long as the cooperative enterprise is the full-fledged owner of all its production, it is extremely difficult in practice to organize the redistribution of this income. Attempts to regulate the inordinately high incomes of some collective farms by assigning a greater portion of this income for purposes of industrial construction, cultural and utility services, merely delay the solution of this problem, and lead in the final analysis to greater differentiation among the collective farms.

In the period of comprehensive construction of communism, a fixed amount of money payment for labor which must not be below a definite guaranteed minimum comprising a necessary element of costs of production in collective farms should become a practice not only in the leading collective farms, but in all collective farms without exception.

It is, however, extremely difficult for some collective farms to solve this problem with their own forces under existing conditions. It would, therefore, be expedient to combine the efforts of collective farms in creating centralized reserve funds which would guarantee a definite minimum of payment for the collective farmer's labor, irrespective of any conditions created by the weather, or any economic exigencies. Such reserve funds could be created, for example, on a regional scale, or for a whole republic, out of the portion of the collective-farm net incomes remaining after payment for the labor of collective farmers at a definite socially normal level, or in the form of an inter-collective farm pool, or under the jurisdiction of existing state agricultural administrative organs. The state could perhaps cooperate to some degree in the setting-up of these funds.

With adequate reserve funds, inter-collective farm organizations would be in a position to recommend and ensure uniform rates of basic pay for the collective farmers' labor in each zone. Collective farms with higher incomes could distribute among the collective farmers, in addition to their basic pay, a certain portion of the net income, crediting the other portion of this income to the inter-collective farm fund and making some of it available for economic assistance to the weaker collective farms.

Adjustment of Production Quotas and Rates of Pay for the Labor of Collective Farmers

Adoption of fixed money payment for labor requires a radical revision and adjustment of production quotas and rates of pay for collective farmers' labor. In this case, farming will be conducted without any losses only if the monetary evaluation of the labor of the collective farmers corresponds to the real incomes obtained by the farm as the result of the expenditure of their labor. In view of this, the transition of collective farms to a scale of payment assessed in money should, as a rule, be preceded by a detailed review of all existing production quotas and rates of pay, adjustment of pay in livestock raising, establishment of payment for transportation services on a ton-kilometer basis, and, wherever feasible, the principle of payment in accord with the quantity and quality of output.

So long as the transition to money payment for labor was an occasional phenomenon, the revision of production quotas and pay rates was carried out separately by each collective farm, through experimental statistical means in most cases. But this amateurishness in questions of rates of payment and production quotas for the collective farmer's labor is becoming increasingly intolerable. A general decision is necessary on technical norms for labor on the collective farms.

Some economists hold that technical output norms should be determined by each collective farm (with the forces of specially designated persons for assessing production quotas). They consider it impermissible to use production quotas fixed by one or another collective farm, or by neighboring collective farms, to say nothing of model quotas adopted for a whole district or region. This viewpoint is incorrect, in our opinion. Owing to the great effort required for the establishment of technical output norms for a few hundred types of work, the scarcity of specialists for fixing production quotas and the necessary documentation, as well as the preoccupation of the collective-farm chairmen and specialists with current affairs, the proposal to have each farm set its own production quotas is unrealistic at this stage. A substantial improvement in the existing system of fixing output norms can be achieved through the combined efforts of a number of collective farms of an entire administrative area, let us say. The work conducted along these lines in almost all the districts of the country in 1956-1959 has been useful and necessary.

Objecting to standard production quotas, some economists refer to differences in the concrete conditions for the performance of identical jobs in different collective farms of one district. In reality, however, the conditions in which many jobs (regular work, for instance) are performed are identical for all the collective farms of a given district and region. In cases where two or three micro-zones with different conditions exist in a given district, standard district production quotas should be differentiated for the respective zones. Lastly, standard production quotas would be designed to help individual collective farms; they would not be obligatory. Consequently, a given collective farm would always be able to substitute for the standard quotas more suitable quotas corresponding to its concrete conditions.

It should be noted at the same time that the methods employed in setting production quotas for labor (including successful methods of simplified technical standardization evolved by the USSR Agricultural Economy Research Institute) have practically found no application in the localities. Standard norms are based mainly on simple comparisons and discussions of norms existing in individual collective farms, in view of which the most suitable norm is selected in the final analysis "at sight," although specialists are consulted.

In the future, the adoption of scientific methods of labor rating and determination of standard output quotas for the collective farms should really become a function of district and regional unions of collective farms. Inasmuch as such unions do not exist yet, this work will have to be organized by the district agricultural inspection departments. In order to enable the district and regional authorities to cope with the task of technical norm fixing, it will be necessary to include specialists in norm fixing on the staffs of the respective agricultural inspection departments and boards. At the same time, the district authorities should be acquainted with simplified methods of technical norm fixing and supplied with the necessary documents. A valuable service would be rendered by a system of short-term courses which would acquaint collective-farm chairmen, team leaders and specialists with the scientific methods of norm fixing for labor.

Preparing the ground for the transition to money payment for labor, collective farms will have to introduce corrections in the existing system of labor evaluation. As a rule, the introduction of money payment for the labor of definite categories of workers discloses serious discrepancies between their level of earnings and the actual amount of labor expended by the workers. Owing to this, many collective farms are radically changing the existing system of rating labor with the introduction of payment in the form of money.

The principal defects in the evaluation of some types of labor on the basis of the existing system of workday units are the excessively fractional nature of the 9-grade scale, the extremely great gap in the payment for labor in the extreme grades of the scale (1:5), and the absence of a planned coordination between the average level of payment for the labor of workers employed in field husbandry, machine operation and livestock farming. The revision of the system of rating labor is to eliminate these shortcomings. In the first place, the number of grades is to be reduced from 9 to 3-4, or 5-6 (including machine operators). Division of jobs into 9 categories is not justified by differences in their arduousness, complexity and importance for the collective farm. It is no accident that some of these grades (1st, 2nd and 4th) find no application in collective-farm practice where payment for labor is officially based on the 9-grade scale. At the same time, the collective farms are sharply reducing the difference in the evaluation of specific types of labor. For non-mechanized jobs in the fields it is being reduced from 1:5 to 1:2, and where account is taken of the skilled labor of machine operators — from 1:10 to 1:4-5. Consequently, with the development of collective-farm production, mechanization, electrification and use of chemicals in agriculture, and with the improvement in the cultural background and technical knowledge of the collective farmers, the existence of substantial gradation in the payment for specific jobs ceases to correspond to real differences between them.

Of special importance in this connection is the elimination of the unduly great gap in the level of payment for labor in field and animal husbandry obtaining in recent years On many collective farms the average daily earnings of a milker or pig herder are 100-150% greater than the earnngs of a collective farmer occupied in field husbandry, and this does not reflect by any means the actual difference n the quality of labor. Nor are the earnings of machine operators, drivers, etc., properly coordinated with the earnings of ordinary collective farmers.

As we see it, questions of rating labor will have to be solved in the future not for one or another category of workers separately, but comprehensively, with due account for the nature of all the jobs in the communal economy of the collective farm. For example, the adoption of a 6-grade scale with a 1:4 relationship between the extreme grades requires that a great part of the non-mechanized labor in field husbandry be appraised on the basis of the first four grades, the labor in livestock farming on the basis of the fourth and fifth, and the work of the machine operators and drivers on the basis of the fifth and sixth grades. This does denote, by any means, that the work of the collective farmers occupied in animal husbandry should be evaluated on the basis of daily rates. Rates of money payment for a unit of production should be such that the average pay for the working day corresponds to the basic rate assigned to the given worker, provided the plan is fulfilled.

Optimum quantities and relationships in payment of the grades of the scale depend upon the concrete conditions in given districts and collective farms, and, in particular, on the average payment for labor there. In cases where the income of the collective farmers from work on the collective farm property is low, the gap between the rating of skilled and unskilled, regular and seasonal work, should be greater than in cases where payment for labor is high. It would, therefore, be inexpedient, in our opinion, to recommend to the collective farms at the present time a uniform scale, or even identical relationships in the rating of different types of labor for all collective farms. In some districts, however, for example in Stavropol Territory, in Moldavia, Uzbekistan, Turkmenia and Estonia, the average payment for the labor of collective farmers has been considerably levelled out and raised in the last few years. Collective farms where payment per workday unit is low comprise no more than 5-10% of the total number in these regions. In such cases it would be expedient to prepare and recommend to the collective farms a uniform scale with definite basic rates of payment for each category of work (in rubles and workday units).

Recommending uniform rates of payment for labor to all the collective farms does not, nor can it, pursue the aim of the complete elimination of differentials in the incomes of collective farms. Guaranteed payment for the labor of collective farmers on the basis of a basic rate scale does not exhaust their incomes from the farm. Therefore, even with the adoption of uniform rates of payment, the more advanced collective farms will be distributing a portion of their profits in addition to the basic earnings of the collective farmers. Nevertheless, the additional incomes cannot grow endlessly, and we believe that they should not exceed 30-40% of the basic pay for the labor of the collective farmer. Uniform scales of basic rates would, therefore, unquestionably tend to strengthen discipline on the collective farms which distribute inordinately high portions of their incomes for payment of labor. And they would serve as some sort of a criterion for the collective farms where payment for labor is relatively low.

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The questions considered here do not exhaust the problems connected with the introduction of guaranteed money payment for labor on the collective farms. Nonetheless, their correct solution should help to advance the collective farms, to provide greater incentives to the collective farmers and raise their material interest in the development of the collective farm, bringing about greater increases in the output of agricultural products and reductions in production costs.

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Present-Day Inflation and Some Bourgeois Economic Conceptions

Prices have been rising in the capitalist countries throughout the post-war period. The depreciation of money undermines the economy and aggravates social contradictions. This has provided the objective basis for the fact that inflation has become one of the most fashionable subjects in contemporary bourgeois economic science and literature. It is not surprising that the problem of inflation is discussed in all kinds of publications, from scientific treatises equipped with a formidable arsenal of mathematical calculations to popular magazines with colorful covers.

The scientific staff in the office of the United Nations Secretary General has made, on instructions of the Economic and Social Council, a special study: "Inflation in the Nineteen-Fifties." The economists point out: "It is probably no exaggeration to say that the world has never been so acutely sensitive to the dangers of inflation as in recent years." (1)

Interesting national differences in the approach to inflation may be observed. In the United States this problem is closely associated with the cyclical development of the economy and is discussed under the slogan invented by Burns: "prosperity without inflation." (2) But in the United States, apprehensions over the influence of inflation on the foreign position of the dollar have also been growing lately. In Britain the subject of inflation is practically unthinkable without the question of the international position of the pound sterling, which is being undermined by inflation and which the British monopolists consider it necessary to defend at any cost. For France a chronic budget deficit is more characteristic than for any other large capitalist country and, therefore, the problem of inflation is considered first and foremost from the angle of state finances. In the Federal Republic of Germany inflation is a bogey used for frightening the Germans, who twice in the lifetime of one generation witnessed the full collapse of their national currency. In all these cases definite social aims are pursued: the threat of inflation is used as a pretext for refusal to raise wages and increase budget appropriations for civilian needs and also for the introduction of higher taxes.

All these difficulties, however, do not mean that there are as many types of inflation as there are countries in the "Western" world. But they show that we are dealing here with an extremely involved and multi-faceted phenomenon which has different aspects and sides. In this article we examine problems of present-day inflation in the industrially developed capitalist countries and the related bourgeois conceptions.

The difference in principle between the Marxist understanding of inflation and bourgeois conceptions follows from the fact that we proceed from the labor theory of value and the theory of money based on it, whereas bourgeois economists long ago discarded the scientific conception of value and, therefore, have no consistent theory of money. In our understanding, paper money (including modern inconvertible credit money, banknotes) represents in its circulation gold, which in reality performs the function of a measure of value. Depreciation of paper money in relation to commodities, i.e., the rise of commodity prices during inflation, is an absolutely real, economically and socially important process. But it is merely a reflection of a deeper economic process, depreciation in relation to gold of paper money which was issued in amounts exceeding the requirements of circulation. Bourgeois economists separate paper money from gold and impute to it the independent performance of the function of a measure of value. In so doing, they gloss over the specific features of the inflationary depreciation of paper money, and any rise of prices, whatever its cause, is presented to them as inflation.

Another important difference relates to the understanding of the role of the state in inflation. We hold that a major factor in inflation is the economic activity of a bourgeois state, or to put it more concretely, budget deficits and the usual militaristic nature of government expenses. Bourgeois economists, on the contrary, either completely ignore or greatly minimize the significance of this basic factor of inflation. (3) Such a position is closely associated with the difference noted above: if any rise in prices is regarded as inflation, then the causes of such a rise must naturally be considered the causes of inflation. Yet, the factors making for a rise in prices are extremely diverse and are not always associated with the activities of the state.

Inflation is a phenomenon of tremendous social importance. It exercises a great influence on the distribution of the national income between classes and social strata. Bourgeois economists, particularly of late, obstinately deny that the working class is the principal victim of inflation. They assert that, thanks to the greater strength of the trade unions, workers in conditions of inflation succeed in preserving and even increasing their real wages and their share in the national income, inasmuch as their nominal wages do not lag behind the rise in prices and even outstrip it. There are also other variants of glossing over and falsifying the real social role of inflation. The Marxist conception of inflation, in full conformity with the facts viewed in a long-range perspective and in their general interconnection, stresses that the main consequence of inflation consists in a redistribution of the national income and wealth to the detriment of the working class and also of intermediary strata, and in favor of monopoly capital.

In the epoch of monopoly capitalism inflation naturally is inconceivable without the active participation of banks, not only central banks of issue but also commercial banks, whereas in the 18th and 19th centuries the banking mechanism played no serious part in it. The role of banks in the process of inflation grew particularly during and after the Second World War.

The identification of inflation with the rise in prices has a definite class meaning for bourgeois economists. On the one hand, they stress the chief manifestation of inflation, obvious to every person, and, on the other, they gloss over he real roots of inflation. Attention is concentrated on production costs, which allegedly fully determine prices, and on the major element of these costs, wages. These views have been repeatedly criticized in the Soviet litera-ure, especially in the works of I. A. Trakhtenberg and E. Y. Bregel.

In contemporary theories of economic dynamics (for example, of Harrod) inflation is regarded as a process of ex-ended reproduction when naturally formed money savings the accumulation of capital in money form) do not ensure nvestments, and this leads to a situation in which the financ-ng of investments is done in an inflationary way, through he creation of money by the state and the banks, which produces an "excess" demand and the growth of prices. In the inal analysis the matter is also reduced to an increase in prices.

Bourgeois economists also regard inflation as a state of he economy in the phase of cyclical expansion in which here is a high demand and prices are growing. Inflation is usually understood to mean some kind of abnormally high demand, too sharp an increase in prices, as though some kind of "sound" standards and bounds for cyclical development can be established. In this sense inflation is presented in contrast to a crisis and is pictured as a sort of an evil, though relatively a lesser one. (4)

To confuse the cyclical rise of prices in the course of he phase of expansion with the depreciation of paper money as a result of its clogging the channels of circulation means to make a two-fold mistake: it means a wrong explanation of the cyclical nature of development of phenomena in the sphere of circulation and a wrong understanding f inflation. But this does not at all mean that there is no onnection between cyclical development and the process of nflation. In the period of the general crisis of capitalism nflation becomes a characteristic feature of the capitalist economy and the cycle develops in conditions of this infla-ionary economy.

Inflation and the Cycle

The present-day capitalist credit and monetary system s inflationary in its nature. Under the gold standard the redit expansion of banks, which always occurred in the hase of expansion, had quite narrow bounds set by the pontaneous operation of this monetary system. Now the in-lationary mechanism serves the phase of expansion through redit expansion not restrained by the spontaneous opera-ion of the gold standard. If, however, as has been the case n France in recent years, the inflationary "potential" xisting, so to say, within the credit system is to a large xtent intensified through the influence exerted on the econ-my by the deficit in state finances, the expansion assumes n inflationary nature. It goes without saying that with a alanced budget the inflationary nature of the upswing can-ot be clearly expressed. But the amount of paper money in irculation and the mass of credit instruments of payment an be expanded within considerable bounds, even if the tate makes no new injections in the economy by increasing he national debt. If there is a big demand for credit, commercial banks which hold large quantities of government onds seek to dispose of them in order to expand their cred-t operations. The central banks are compelled to buy the overnment bonds in order to maintain their prices and revent the undermining of the credit of the state. The rowth of credit operations by the commercial banks leads to an increase in deposits and, in certain proportions, of the amount of bank notes in circulation. Moreover, the amount of money necessary for circulation also depends on the velocity of its circulation. An increase in velocity, all other conditions being equal, reduces the amount of money necessary, whereas the actual amount, as pointed out, is growing. In this way inflation and its influence on the level of prices may be intensified. According to available appraisals, this is what happened, particularly in the United States and Britain, during the years of expansion in the fifties.

A cyclical expansion with a rise in prices and a simultaneous growth of sales characteristic of it creates a need for more money in circulation. But does the spontaneous development of capitalist production permit such an increase to be made on the basis of some conscious actions of the banks and the treasury? It is clear that this happens spontaneously, and the very nature of the process under present conditions is such that it becomes inflationary, i.e., the amount of money, including bank deposits, exceeds the requirements of circulation.

If the expansion occurs under more or less normal, peaceful conditions, the state budget usually has no large deficits during this period. The advent of a crisis, as a rule, brings about a rise in budget deficits: tax receipts decline, while expenditures grow in connection with the financing of "anti-crisis measures." The inflationary effect of state finances increases. This was the case in the United States during the crisis at the beginning of the thirties and the depression in the mid-thirties. Such a change in the nature of the budget also took place during the last crisis, in 1957-1958. The growth of inflationary tendencies resists a decline of prices and promotes a new rise after the economy emerges from the crisis.

Thus, the movement of prices in paper money is, as it were, a resultant of inflationary and non-inflationary factors. The non-inflationary factors are mainly the cyclical factors, but they operate in conditions of domination by the monopolies, whose influence on the formation of prices is tremendous. A large part in the formation of prices is played by the present-day bourgeois state. In recent decades, even in years other than the period of the second world war, a great influence on economic activity has been exerted by militaristic factors (the preparation of imperialism for a world war and the "small" wars it unleashed), which have repeatedly created an intensified demand for certain commodities in foreign and home markets. All these factors in the main tend to raise prices. The absence of a gold standard and the ever-present possibility of devaluating the currency (although bourgeois governments are by no means always willing to do so) means that the bounds for the rise of prices in paper money are quite wide.

The experience of history shows that the rise of prices in the epoch of the general crisis of capitalism, as a rule, is irreversible: prices, which have gone up under the influence of a multitude of factors, have not dropped substantially in periods of economic crisis, beginning with the last pre-war crisis.

Thus, in the United States, wholesale prices rose 180% in the last quarter of a century (1933-1958); during this entire period there were only two years (1938 and 1949) when the index registered a somewhat substantial decline (over 3%). It is indicative that there was no price decline either in 1954 or in 1958, which were crisis years. The rise of retail prices has been even more steady (which in general is characteristic of an inflationary trend of prices): the index has never declined more than 1-1.5%, the last time being in 1949. Altogether it has risen 120% since 1933.

In Britain this trend is even more striking. Since 1933 there has not been a single year in which the index of retail prices dropped by as much as one point. As a result, prices trebled in a quarter of a century. Wholesale prices dropped slightly only in 1938 and 1953 and altogether increased by more than 3.5 times.

In France wholesale prices have risen 48 times since 1933; throughout this period there was only a slight decline of prices in 1934 and 1935 and stabilization in 1953-1955. The index of retail prices declined only once after 1935 (in 1953, less than 2%).

Whereas in the United States the gold content of the currency did not change after 1933-1934, in Britain and, particularly, in France it dropped several times, although on the whole its decline in 25 years was less than the drop in the purchasing power of money.

In analyzing the dynamics of prices in the United States it seems, on the one hand, that the entire rise of prices is inflationary, i.e., is an increase of prices in paper money, without an essential change of their prices in terms of gold. Prices in gold could hardly have a tendency to rise over decades if there is no big and prolonged growth of labor productivity in gold mining as compared with other branches of social production. Nothing of the kind, as far as can be judged, is happening. On the other hand, the rise of prices seems fully to be an actual rise of prices in terms of gold, inasmuch as the purchasing power of gold in relation to commodities has really dropped. It would be wrong to explain this only by the policy of the US Government, which is artificially maintaining the fixed low official price of gold. Had there been no real economic basis underlying this policy, it would have failed long ago.

In reality, evidently, both processes are taking place: prices in terms of gold have risen first of all as an inevitable reaction to the sharp drop of gold prices during the 1929-1933 crisis, and also under the influence of the activities of the monopolies, special conditions of economic activity, etc. At the same time there was an inflationary increase of prices in paper money which, owing to a number of reasons not discussed here in view of the lack of space, has not brought about an official reduction of the gold content of the dollar. There can be no doubt, however, that such a reduction will take place sooner or later.

We can hardly expect any substantial general decline of prices in the capitalist countries, even if cyclical crises become deeper than they were so far in the post-war period. We can sooner expect the rise of prices to continue. The irreversibility of the rise of prices shows that ultimately it will be consolidated as an inflationary increase and will lead to a reduction in the gold content of the monetary unit. In the present economy an inflationary basis is sooner or later also laid under a non-inflationary rise of prices through the expansion of money in circulation and credit, and it is consolidated as an inflationary depreciation of money. We had a striking example in the increase of prices during the war in Korea in 1950-1951, which was not directly connected with inflationary processes in money circulation but was determined by the special war boom. But even after the end of this boom, domestic prices in most capitalist countries did not decline, while the increase in the amount of money and bank deposits soon created a basis in money circulation for the new level of prices.

In the light of the aforesaid, how are we to approach this question: was there inflation in the United States in recent years or not? It would be most correct to say that in the period of the last cyclical expansion in the United States (1955-1957), inflationary elements were expressed relatively weakly, inasmuch as the state budget in general had no deficit and the amount of money in circulation increased slightly. But the very nature of the financial and credit monetary systems is such that a certain increase in prices during those years evidently will remain as an attribute of the dollar and in the long run will acquire inflationary features.

The Conception of "Permanent Inflation"

The constant rise in prices (in the last 12 years it was quite slow, except in the period of 1950-1951) on the one hand, and the absence in the post-war period of an overproduction crisis similar in its depth to the 1929-1933 crisis, on the other, has prompted some bourgeois economists to the conclusion that there is a connection between these facts, and also that such a rise in prices (so-called "creeping inflation") smooths out the cycle. The conception of "permanent inflation" has arisen. It is associated in the main with the name of the American economist Slichter. The London *Economist* has described it as follows: "Professor Sumner Slichter of Harvard University has become the most articulate spokesman of a school whose argument in brief, is that under modern conditions creeping inflation is inevitable and that it is an acceptable price to pay for many of the benefits of modern economic organization and that it can be lived with indefinitely." (5)

Opposing a scientific treatment of the problem of value, Slichter holds that the long-term tendency of prices to rise is determined in our days simply by the laws of supply and demand. According to his "prognostications," the course of economic development, specifically the industrialization of underdeveloped countries, will result in the next few decades in a high demand for oil and metals, with the supply constantly lagging behind the demand. This, in turn, will create in the labor market a situation in which it will be relatively easy for the trade unions to achieve an increase in money wages and this will drive the general level of prices upward. Moreover, in his opinion, the high demand and increase in prices will be promoted by rapid technical progress and also by the further spread of consumer credit. On the other hand, he shares the opinion, widely current among bourgeois economists, that the present-day cap talist economy is much less subject to the influence of the cycle than in the past.

The main trend of Slichter's arguments is interesting. He encroaches on one of the "sacred cows" of bourgeois science and economic policy, the principle which, at least in words, has been usually held immutable: the stability o the purchasing power of money. He presupposes that the power of organized labor will grow and it will be more advantageous and (in the condition he predicts) easier for the monopolies "to raise prices than to resist the demand for higher wages." (6) In general, Slichter proposes, in substance, that the hypocritical struggle against inflation be abandoned and that it be openly utilized in the interests of the monopolists. He counts, if we can put it this way, on a constant "self-stimulation of business activity." Slichter objectively expresses the interests of the industrial capitalists, for whom in general a constant small rise in prices is advantageous because it helps them to fight against an increase in real wages and also reduces the actual burden of their indebtedness to financial institutions.

Observing some real laws governing the present-day ca talist economy, particularly the tendency to an almost continuous rise in prices, Slichter wrongly interprets the reasons for this phenomenon, inasmuch as he ignores the militaristic-inflationary nature of state finances and the attempts of the monopolies to raise prices, regardless of money wages. His belief that "creeping inflation," coupled with the existence of so-called "built-in stabilizers" in the present-day economy, can ensure a crisis-free development is utterly groundless. Crises are produced by the deepest contradictions of the capitalist system and it is ridiculous to think that they can be eliminated simply by allowing prices to rise 2-3% annually.

The conception of "permanent inflation" is closely tied up with sociological theories which distort the nature of contemporary bourgeois society and the state. We mean first of all the well-known theory of "countervailing power" expounded by the American economist Galbraith, and also the conception of the "welfare state." In these theories the problem of inflation is tied up with the problem of employment.

Assessing the prospects of inflation (by which he means simply a rise in prices) in the United States, the American economist Bach, mentioned earlier, writes: "First there will be constant inflationary pressure in the United States in the foreseeable future. Second, this pressure is rooted deeply in the essence of our democratic, political and social system, and also in our special American economic institutions, and this fact makes the effective prevention of inflation highly improbable." (7)

The main reason for this, in his opinion, is the "fetish of full employment." A modern state sees its main economic function in the maintenance of high employment; it is capable of discharging this function only by increasing its expenditures which compensate, in case of necessity, for the inadequate total demand in the economy. The main point, however, is not only and not so much the budget deficit: the main point is that in this situation, in the conception of Bach and others, "the inflationary spiral of wages and prices" becomes a necessary element of the economy. The principal social and economic groups which possess, as Galbraith puts it, approximately equal economic and political strength, are constantly achieving an increase in their money incomes. The commitment of the state to compensate for inadequate demand under any circumstances allegedly enables the workers to press for higher wages without fearing that, owing to higher costs and a drop in profits, the capitalists will curtail production and employment; it also enables the monopolies to raise prices without fearing that this will result in overstocking of goods and a decline of production.

The conception of "permanent inflation" is based on the rotten foundation of obviously apologetic theories. It glosses over the militaristic factors in inflation. Any process of a rise in prices is pictured as an "inflationary spiral," which allegedly is pushed up in equal measure by the monopolies and the workers. The fact that there are millions of fully jobless in the United States at present provides an answer to the claim that a capitalist state not only strives for, but is also capable of maintaining, full employment at the price of "creeping inflation." The assertion that a bourgeois state has the possibility of making a conscious choice between "inflation with full employment" and "deflation with unemployment" is an invention. The possibilities of the state for compensating for inadequate demand by means of the budget are limited both in scale and in structure. The change in the phases of the cycle is an objective regularity and "to buy immunity" from the operation of this regularity at the price of inflation is impossible. On the other hand, inflation itself and the rise of prices are also determined by the very nature of present-day capitalist economy, and not by the conscious concern of the state for full employment or other concerns of a "welfare state."

The conception of "permanent inflation" has one more important aspect. Its supporters assume that "creeping inflation" is the best means for mitigating the class struggle. As a matter of fact, this is the well-known Keynesian thesis adapted to the present situation.

There is a widespread conception that the main threat to the capitalist system of "free enterprise" is the decline in the rate of accumulation on a social scale in view of the bitter struggle of the working classes for their share in the national income and the attendant decline of profits. The American Professor Bronfenbrenner even "calculates" the degree of decline in profits at which the American economy is threatened by a crash due to "under-accumulation" and a lessened propensity to invest. (8) Bourgeois economists need these fantastic calculations to justify the struggle of the monopolies against the growth of real wages. The selfsame Bronfenbrenner thinks that "permanent inflation" should be the "safety valve" which is capable of cushioning the pressure of the working class and averting this danger. The monetary integument, which conceals the movement of real wages, the confusion of rising prices and nominal wages, are still capable of misleading workers, of serving, as Bach says, as a "pacifier" or "mitigator."

These economists prefer not to notice the contradiction into which they land in search of apologetic arguments. Putting forward the above thesis they, in effect, admit that inflation redistributes incomes to the detriment of the workers. But this does not prevent them, in another connection, from putting forward the above assertion according to which the distinctive feature of present-day inflation is that the workers allegedly do not suffer from it.

The conception of "permanent inflation" is a characteristic product of contemporary bourgeois economic science. It represents an important ideological weapon of monopoly capital although, as we shall see further, it is not acceptable to all its groupings.

The Ideology of an Anti-Inflation Policy

The proponents of prolonged mild inflation stress in every way that they are against big, growing inflation. But who can guarantee that inflation will not cross this vacillating borderline? On the other hand, the fear of the economic, social and political consequences of a big inflation is quite strong among the bourgeois leaders. This is the reason why the "anti-inflationary trend" is widespread in economic science and politics.

Objections to "creeping inflation" are also presented because it allegedly is a manifestation of the excessive cyclical upswing, after which a particularly acute crisis must follow. That is why "smoothing over of the cycle" and "regulation of inflation" are almost synonymous in modern anti-crisis recipes.

When prices are not rising or rising slightly, it is much easier for the monopolies and the government to come to terms with trade union leaders about "restraint" in their demands for higher wages. The reactionary trade union leaders make use of this situation to convince the rank and file that such restraint is allegedly demanded by the "national interest."

The following idea can be found in bourgeois literature at every step: moderate deflation is useful as a reminder to workers about the constant threat of unemployment.

Many economists assert that even "creeping inflation" (not to speak of substantial, so-called "galloping" inflation) undermines accumulation since it reduces the propensity to save among wide social strata. And these savings, mobilized by the credit system, have an ever-increasing importance for financing capital investments.

Of great significance, likewise, is the position of a currency in the international arena. Inflation has a tendency to worsen a country's balance of payments and makes devaluation inevitable at a certain stage, an operation that is quite unpleasant and fraught with grave consequences. For Britain, in particular, this dangerous aspect of inflation is of decisive importance.

Monopoly capital needs anti-inflation slogans for political reasons as well. The broadest masses of the population suffer from rising prices. Inflation particularly affects, besides workers, the members of social groups with fixed incomes: pensioners, civil servants and also tens of millions of holders of insurance policies, people who have savings deposits, etc. No bourgeois party and no government will ever reject the slogan of combating inflation, whatever policy they actually pursue.

It should be borne in mind that the hullaballoo raised in the Western countries around inflation is compounded of the most insolent demagogy and speculation on the sentiments of the masses. This, of course, does not preclude the fact that inflation is really a serious problem for monopoly capital.

The policy of deflation has become the official credo during the upswing in the fifties in the United States and, perhaps to a still greater extent, in Britain, the Federal Republic of Germany and other developed capitalist countries. Even when symptoms of a crisis began to mount in the United States at the end of 1957, and in other countries in 1958, the departure from this policy was by no means advertised. It is a fact that the Federal Reserve Banks of the United States lowered the official discount rate only for a few months and raised it again in the autumn of 1958. True, in changing the discount rate, they in the main followed market tendencies, but it is indicative that there was no serious signs of any consistent "cheap money" policy in the activities of the central banking system. As for the budget, in the 1958-1959 fiscal year, as distinct from previous years, it had a large deficit (about 13 billion dollars). This deficit, however, was mainly a result of larger military expenditures and a decline in tax receipts due to the worsened economic situation in the country, and only slightly connected with the financing of the "anti-crisis measures" advertised by the government.

The deficit showed up when the decline in production, which was rather short-lived, had already stopped. The money incomes of the population dropped rather little and already began to increase in the second quarter of 1958, while prices rose slowly or were stable. Notwithstanding the substantial growth of unemployment, the monopolies on the whole did not succeed in lowering the wage rates of the workers (but they increased exploitation as a result of a considerable rise in the productivity and intensity of labor, the creation of a huge army of unemployed, the maintenance of which was an additional burden for those working). Thus, the main motive of a deflationary policy — struggle against the growth of wages — was practically not removed from the order of the day.

In view of the decline in American exports and the big outflow of gold from the United States, foreign exchange factors, too, began to play a more important role in the problem of inflation than formerly. In his regular anti-inflation speech, Chairman Martin of the Federal Reserve Board stressed with unusual sharpness this aspect of inflation in the United States. (9)

A large stock-exchange boom developed in the United States in 1958-1959. The rise in stock quotations attracted available loan capital into this sphere and greatly hampered the placing of government bonds bearing fixed interest rates, the issue of which rose sharply in view of the budget deficit and the need to replace the large number of old bonds, whose term expired, with new loans. The stock-exchange boom also aroused alarm because the speculative rise of quotations was fraught with the threat of a subsequent stock-exchange crash. The Federal Reserve System already, in effect, exhausted the possibilities it had under existing laws for influencing the stock exchange, almost completely forbidding the buying of stocks on credit.

All these factors created a situation in which inflation was regarded as a serious danger to the American economy. In such a situation one can understand the strengthening of the position of advocates of an anti-inflation policy, which was reflected in the proposed budget for 1959-1960, drawn up without a deficit.

Such a trend in economic policy could be applied in practice in view of the distinctive features of the 1957-1958 crisis in the United States, mentioned earlier. Had the crisis assumed a deeper character, "budget priming" would undoubtedly have been increased, notwithstanding the shout of the "anti-inflationists." It is characteristic that in Britain, where the crisis assumed the form of prolonged stagnation, the budget for the 1959-1960 fiscal year which began on April 1, 1959 was drawn up with a huge deficit of over 700 million pounds. This deficit involves the undoubted threat of greater inflation. The government took the risk, counting on the anti-crisis effect of government spending.

Facts point to deep contradictions in anti-inflation ideology and policy. The contradictions of the capitalist economy compel the ruling circles to pursue such a policy. But it cannot resolve these contradictions and merely creates new ones. The struggle against inflation cannot be a serious one so long as the arms race continues.

The Reactionary Utopia of Organized Distribution

The idea of bourgeois political economy of solving the problem of distribution under conditions of inflation along the lines of collaboration of classes within the framework of a "welfare state" is a sign of the times. As distinct from the proponents of "permanent inflation" who (with different shades in opinion) hold that "creeping inflation" itself will successfully cope with the problem of distribution many bourgeois economists advocate the prevention of inflation by the "joint efforts" of the main classes of society, and agreement, under stable prices, on the share of each class in the national income. These economists pin great hopes on the policy of collaboration with the monopolies pursued by leaders of the biggest trade unions in a number of capitalist countries. In the opinion of these economists, the only thing needed is to convince the trade unions that the share of the capitalists and the workers in the national income should not be decided through strike struggles, but at a table heaped high with statistical charts, at which sit, on the one side, "labor leaders," and on the other, "captains of industry," and at the head, representatives of the government.

Of interest in this respect is the position of Burns, briefly outlined in one of his statements in October 1958. (10) Burns holds that "creeping inflation" is highly dangerous for American capitalism. He accuses the working class of causing inflation in the first place, but does not ignore the price policy of the monopolies and also the activities of the state. He reproaches the government for insufficient struggle against inflation.

The main idea of Burns is that to avert the "threat of long-run inflation that faces our nation" the joint and coordinated efforts of the state and "private groups" are needed. By "private groups" he means the monopolies and the trade unions. The state should, of course, assume the leading role, fighting inflation on a "wide front." Pointing out, for the sake of form, that stronger anti-trust legislation is desirable, he demands greater interference by the state in the affairs of the trade unions which, according to him, must take note that "unless they practice greater restraint in the future (in demands for higher wages — A. E.) the government may need to take drastic steps to curb their power to push up costs and prices." But naturally Burns would prefer not to take these drastic steps; he would prefer a peaceful and businesslike collaboration of labor and capital, under the guidance of the government in the best "welfare state" style.

Such ideas are even closer to the hearts of bourgeois and Social-Democratic economists in Western Europe. This is particularly characteristic of Britain, Holland and the Scandinavian countries where Social Democrats have been, or are, in power and where experience in duping the workers with the ideology of class collaboration is particularly great. Such an ideology is also being spread in the Federal Republic of Germany.

Here is one example. At the end of 1957 the Oxford University Institute of Statistics arranged a symposium on the subject of "The Monetary and Credit System," in which many prominent British economists took part. Naturally, the problem of inflation held an important place in the discussion. (11)

In a paper on "Cost Inflation," Burchardt, as is customary in Britain, placed in the foreground the danger inflation holds for the stability of the balance of payments and the international position of the pound. In his opinion, the main reason for the constant rise of prices is that the social groups which represent the so-called factors of production (i.e., capital and labor) are "bargaining" and concluding "deals" in an uncoordinated, unsystematic way and that the subject of these "deals" is only the monetary, and not the real, size of the remuneration. It is necessary to raise this sytem of "deals" in society to a higher level, to the level of conscious distribution of real incomes under the aegis of the state. Burchardt points out: "To create an institutional framework which would transfer the conclusion of deals from a monetary expression to a real one is a tremendous task. Decisions which are taken partly by the government, partly by the employers, and partly by individuals or groups of individuals would have to be harmonized. This is not easy, but something close to this is presupposed if an attempt is made to compel one sector of society, say the trade unions, to conclude deals within the framework of full employment and stability of prices." (12)

The author paints a utopian picture, where the economic class struggle which inevitably accompanies capitalism, and the spontaneous laws of economics, are replaced by practically centralized planning of distribution conducted by state agencies on the basis of "applications" for real incomes presented by the "factors of production." If such planning of distribution were possible, then of course inflation could be precluded, but then capitalism would not be capitalism. The appearance of such views is highly symptomatic. One cannot but see that, in a distorted form, they reflect a basic fact of reality, the cardinal contradiction under capitalism between the social nature of production and the private capitalist system of appropriation.

Such ideas are a utopia, but a utopia with a very definite class content; its purpose is to justify the freezing of wages.

The attempts of bourgeois governments to apply to some extent the idea of "organized distribution" in practice boil down to this in essence. But in peacetime the direct freezing of wages is politically inconvenient. That is why governments employ more flexible methods, state arbitration, etc. United Nations economists hold that the most serious attempt to regulate wages on a national scale with the collaboration of trade-union leadership was made in the Netherlands. (13) But prices in that country grew no less than in other countries. This once again proves that the workers are not to blame for the increase in prices. In 1956 the government had to abandon this attempt.

The So-Called "Inflationary Spiral"

The reason for the extremely widespread acceptance of the various versions of the theory of the "inflationary wage-price spiral" is the prolonged and almost uninterrupted rise in prices in the capitalist countries, on the one hand, and the greater might and organization of the working class movement, on the other. The substance of this theory is quite simple: the reason for the rise in prices is the increase in wages as the main element in production costs; in turn, the increase in prices brings about new demands from the workers, and when they achieve them, the new rise in costs again leads to a rise in prices, and so on *ad infinitum*.

The "inflationary spiral" theory is designed to counterpose the interests of the working class to the "national interest," to present the working class as the party guilty of inflation and the attendant economic difficulties. In this way an attempt is made to set the middle strata, badly hit by the constant rise of prices which results in a depreciation of fixed incomes and savings, against the working class. In Britain these strata are particularly sensitive to demagogic shouts that the pound is losing its world position owing to the "inordinate appetites" of the workers.

Of great importance for the spiral theory is the distinction drawn by bourgeois economists between "demand inflation" and "cost inflation." United Nations economists have complicated this classification even more by introducing into "demand inflation" such subdivisions as "aggregate demand inflation" and "sectoral demand inflation" and pointing out that inflation in industrial capitalist countries in the fifties should be treated as a combination of "sectoral demand inflation" and "cost inflation." In other words, the reason for the rise in prices was the excess of demand over supply in certain sectors (mainly in the heavy industries), and also the rise in costs which can take place in general without an excess demand. (14)

The general meaning of these arguments is that inflation (in the sense of a rise in prices) may develop independently of budget deficits and excessive expansion of credit.

The process of inflation is depicted as some kind of a fire which is started by a match. It is enough for workers in one of the key sectors, where labor productivity is rising swiftly, to achieve a certain increase in wages for this increase to spread to other branches where there may be no increase in labor productivity. These sectors will raise prices to prevent a decline of profits. Then workers of the key branches begin another "turn of the spiral." And so on and so forth.

United Nations economists are trying to make sure that their position should not seem directed against labor. They stress that their analysis does not place guilt for the spiral on a definite social group. "It is in the very nature of the wage-price spiral that it is difficult to determine ultimate responsibility for starting the spiral." (15) The turning of the spiral can also be started by a so-called autonomous rise in prices, for example, an increase in import prices or the raising of rents in connection with government measures. But these reservations do not change the essence of the conception, whose class tendency is perfectly obvious.

The deductions of the spiral theory are refuted on the basis of the fundamental principles of Marxist political economy. Such criticism should include an analysis of the concrete conditions of contemporary capitalism and the new tendencies governing its economy. The present article will merely indicate the main lines of such a criticism.

Coming out in his work *Value, Price and Profit* (1865) against the viewpoint, which is harmful to the working class movement, that the struggle for higher wages is essentially useless inasmuch as such an increase will be immediately reduced to naught by a rise in prices, Marx pointed out that the price of a commodity is based on value, and that value is determined by the expenditure of socially necessary labor and does not depend on wages. That is why a "general rise in wages would result in a fall of the general rate of profit, but broadly speaking, would not affect the prices of commodities." (16) This is the basic theoretical position from which the spiral theory should be criticized. It is no less important today, when bourgeois economists are still more entangling the actual relations, utilizing the fact that the processes of price formation have become greatly complicated under capitalism today.

If the rate of profit declines as a result of an increase in wages won by the workers through struggle, the capitalists can ensure its maintenance through a growth of productivity and intensity of the labor of the workers. This is a more or less prolonged process. During the crisis of 1957-1958 in the United States, when hundreds of thousands of industrial workers lost their jobs, the output of the employed workers rose sharply. On the other hand, prices have changed little in the last two years.

But under conditions of monopoly capitalism changes have occurred in the processes of price formation. Deviations of prices from value have assumed an incomparably greater scale and duration.

On the other hand, the system of money circulation has completely changed: instead of a gold standard which sets rigid bounds for the mass of money and the level of prices, paper money circulation with its inflationary elasticity prevails.

The labor movement today can in no way be compared in its strength with what it was 100 or 75 years ago. This makes the capitalist look for different ways of increasing profits while raising wages. The methods of greater productivity and intensity of labor are widely supplemented by the policy of raising prices, for which the domination of the monopolies creates fresh opportunities.

The tendency for a prolonged rise in prices is inherent in the economy of present-day capitalism. It follows from the militarization of the economy, the inflationary nature of state finances and bank credit, from the practice of monopoly prices. Prices may rise on a very large scale under paper money conditions.

Taking all the aforesaid into account, it is clear that present-day monopolies make extensive use of the opportunity to reduce increases in wages to naught through a rise in prices, thus maintaining the rate of profit. It goes without saying that the opportunities for such an increase in prices are all the greater, the bigger the monopoly, the more effective its domination of the market, the more actively it is assisted by the government. Naturally, there are objective limits to the rise in prices by each monopoly, limits set by the law of value and other spontaneous laws of the capitalist economy.

The basic fallacy of the spiral theory is not, as the theory says, that a rise in wages is usually followed by an increase in prices. Indeed, daily experience teaches the workers that as a rule the rise in wages which they win is reduced to naught by the higher prices of the goods which they consume. But between these phenomena there is no automatic causal relationship. The economic laws which determine wages and prices of goods differ in essence. An increase in money wages is not the cause of a rise in prices, but only a pretext for a new jacking up of prices by the monopolies, the possibilities of which are determined by the above-mentioned factors.

The struggle for higher wages is, in effect, the only way the workers have of defending their living standard when prices are rising.

From this, of course, it does not follow that the workers in each case wait for an increase in prices of the goods they consume before presenting demands for higher wages. In criticizing the spiral theory, it is customary in the Soviet literature to stress that in point of time higher wages can only follow a rise of prices provided the working class puts up a successful struggle. (17) This thesis needs substantial amendments. The "spiral theory" means by inflation any rise in prices, particularly under conditions of a cyclical expansion. In this connection it is necessary to cite the following words of Marx: "It is the height of folly to demand of a worker that, while his wages are necessarily affected by the adverse phase of the cycle, he should exclude himself from compensation during the prosperous phase of the cycle." (18) What does this mean? It means that in the phase of expansion a worker should strive for higher wages, which should exceed the rise in prices. Only with the help of an increase in wages which outstrips the rise in prices can the working class obtain some sort of a share in the fruits which the greater productivity of its labor gives to society.

More than that, the working class cannot look on with indifference as the monopolies reduce to naught the increases in wages by raising prices. It is fighting against the high cost of living by all means at its disposal, including pressure on the state. In this struggle the peasantry, petty bourgeoisie, office employees and other strata which also suffer from the oppression of the monopolies, may often be its allies. Exposure of the "inflationary spiral" theory is of great importance for uniting the working class in the struggle for its vital interests, for extending the front of this struggle, for drawing other working people and even sections of the petty bourgeoisie into the struggle.

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Literature Cited

(1) *World Economic Survey 1957*, United Nations, New York, 1958, p. 4. (Translator's note: This and other quotations cited below are re-translated from the Russian.)

(2) Arthur Burns is an American economist who in 1953 1957 was chairman of the President's Council of Economic Advisers. He is now President of the National Bureau of Economic Research, the most important research institution in the field of economics.

(3) The American economist Bach, formulating six reasons which, in his opinion, are causing inflation in the United States, thinks it necessary to put the financing of the "hot and cold war" only in fifth place and he devotes a minimum attention to this factor. See G. L. Bach, *Inflation. A Study in Economics, Ethics and Politics,*

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Mirovaia Ekonomika i Mezhdunarodnye Otnosheniia -
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M. Golanskii:

Methods Employed to Recalculate the National Income of the USA

National income is one of the most important indications of the economic potential of a country. Now that the USSR has entered the decisive phase in the economic competition with capitalism, the determination of the size and dynamics of the real national incomes of the most developed capitalist countries has become very important. The determination of the real magnitude of the national income of the US, the chief capitalist country, is of special interest.

The magazine Mirovaia Ekonomika i Mezhdunarodnye Otnosheniia No. 5 for 1959 carried an article by Y. Pokataev headed "US National Income: Statistics Versus Common Sense," which, while broadly criticizing the American bourgeois theories of national income, attempted to determine the size of the US national income. Unfortunately, Y. Pokataev's computations suffer from certain weaknesses owing to the inclusion in the national income of a series of extraneous factors representing elements of double counting.

The task of recalculating the national income of capitalist countries consists precisely in clearing the bourgeois statistics of extraneous elements by applying Marxist methodology. Only by fulfilling this task is it possible to reveal the true dynamics of the national income of a country and to compare it with the national incomes of other countries.

In this article, methods are suggested for recalculating the US national income aver a long period of time with a view to the specific characteristics of American statistics, and, in particular, a method of determining the dynamics of the physical volume of the US national income over a period of 90 years is described. In the course of our exposition certain flaws in the estimates of the US national income made by Y. Pokataev will be pointed out.

Selection of Method for Recalculating National Income

In official American statistics national income is calculated by two methods: according to the distribution and final use. Calculation of the national income by distribution reduces itself to the summing up of all incomes paid out: wages and salaries, incomes of unincorporated enterprises, rents, corporate profits, interest. The method of final use determines the national income by subtracting from the gross national product capital consumption allowances and indirect taxes.

Soviet economists cannot use these methods without corrections involving basic points. An arithmetical summing up of the incomes of all groups of the population, regardless of their source, leads to exaggeration of the size of the national income by the inclusion of derivative incomes obtained from a redistribution of the basic incomes. Calculation by the final use leads the bourgeois economists to a similar exaggeration. Confusing material production with services, they include both in the sphere in which national income is created.

In reality national income is created in the sphere of material production only, i.e., in the sphere of application of productive labor.

On the basis of American statistics it is impossible to recalculate with sufficient accuracy the US national income by adding up the net product of the various branches of material production. Firstly, owing to the absence of primary data US statistics provide only an approximate estimation of incomes in various branches of the economy on the basis of a rough classification of total incomes paid out in the country. The apportionment of this sum is carried out on formal grounds, without an account of the real origin of the incomes. (1) Secondly, the American statistics distort the data on the total sum of incomes paid out. The capitalists, by tax evasions, minimize their profits. The share of hidden profits varies from year to year, depending on the tax rates. These distortions cannot be estimated with any degree of accuracy on the basis of published data.

The only method of calculating the US national income suitable for our purpose is a calculation based on data showing the use of the final product, because available statistics permit a more or less correct estimation of output in the sphere of material production over a lengthy period. In this case, the national income is regarded as the part of the annual product which remains at the disposal of society after material expenditures are replaced. Hence, to determine the real value of the national income it is necessary first to know the gross output in the sphere of material production and material expenditures which went into it.

For this purpose American statistics on the final product of the country, known as the gross national product, may be used. By the final product here is meant goods and services produced during the year, which are bought not for the purpose of resale and which do not become an element in the value of other goods and services. The size of the final product is determined as the sum of personal consumption expenditures, gross private domestic investment (housing and industrial construction, equipment and changes in business inventories), government purchases of goods and services and net foreign investment. (2) Materials and semi-finished products are regarded as "intermediate" products, the value of which enters into the value of the final product and is therefore not taken into account. As a result of such calculations the gross national product does not include that part of the yearly product which goes to make up for the material elements of circulating capital created in previous years and consumed in production. (3)

With this method of calculation the data on the gross national product represent a combination of statistical indices for the national income, depreciation and non-material services.

Inasmuch as the use of materials from the supplies of earlier years is not taken into account in the calculation of the gross national product of the USA, the actual value of the national income is calculated by deducting from the US gross national product not the whole of the reimbursement fund, but only depreciation. In this way, elements related to the sphere of services are removed from the data on the gross national product.

Determination of the Real Size of the Final Product in the Production Sphere of the USA

American statistics on consumption expenditures include data on the sums spent by the US population on durable and nondurable goods and services.

The sum total of expenditures on nondurable goods includes the expenditures of American military and government personnel abroad. Since the goods bought abroad are not part of the material production of the US, they should be excluded from our calculations. Y. Pokataev, on the contrary, includes this item of expenditure in his calculation of the national income. This could be justified, of course, had these expenditures been included on the import side of the foreign trade balance. But Y. Pokataev makes no mention of this.

The data on durable goods of personal use are accepted without any alteration.

Under "Services," the US statistics include the "value" of 55 forms of services to the population. Only eight of these may be included in the sphere of material production, namely: shoe repairs, garment repairs, laundering, repair and lubricating of automobiles, repair of radios, production and supply of electricity, gas and water. All the services named are a result of both the process of adaptation of matter to meeting human needs and of the process of increase of value.

Table 1

Services Relating to the Sphere of Material Production*
(in millions of dollars)

	1929	1955
Shoe cleaning and repair	164	214
Cleaning, dyeing, pressing and repair of garments	473	1,742
Laundering in establishments	475	976
Electricity	616	3,228
Gas	542	2,009
Water	278	847
Automobile repair, greasing and washing	776	3,075
Radio and television repair	26	664
Total	3,350	12,755

* Based on data in National Income 1954 Edition, A Supplement to the Survey of Current Business, Washington, 1954; Survey of Current Business, July 1957.

It must also be remembered that the value of unproductive services involves some material expenditures. The population pays not only for services rendered by doctors, barbers, artists, transport workers, etc., but also for the value of the materials consumed in rendering these services (depreciation of equipment, use of various materials, fuel, electricity, etc.). Inasmuch as these expenditures are made from current output, they should be included in the material production of the given year.

The data on the "value" of the unproductive services make it possible to establish that about 15% of all expenditures of the population on barber shops, beauty parlors, funerals, local and inter-city transportation, amusements and education, taken together, comprise material expenditures from current production.

Table 2

Estimate of Material Expenditures Involved in Production of Non-Material Services*
(in million dollars)

	1929	1955
Barber shops, beauty parlors	525	1,595
Funeral and burial expenses	607	1,228
Local transportation	1,117	2,107
Inter-city transportation	535	1,129
Amusements	913	1,753
Education	664	3,059
Total	4,361	10,871
Material expenditures in production of non-material services (15% of expenditures on the above services)	654	1,631

* Based on data in National Income 1954 Edition...; Survey of Current Business, July 1957.

The total value of the material products involved in "Expenditures on Services," as estimated by us, was 4,004 million dollars in 1929 and 14,386 million dollars in 1955.

From the "Services" column Y. Pokataev partly takes into account house rents, which he regards as an index of depreciation of houses. However, the depreciation of houses cannot be regarded as an element of national income. The depreciation of non-industrial buildings may reflect only the consumption of the national wealth and has no relation to the size of the national income. As for new housing, American statistics record it under the head of "Gross Private Domestic Investment."

In the section headed "Government Purchases of Goods and Services" we are interested only in the purchase of goods and buildings, as all other expenses involve services of a nonmaterial nature.

It must be pointed out that Y. Pokataev deals arbitrarily with the official data on government expenditures on capital construction. He included these expenditures under the heading "Gross Investments in Building," but failed to subtract them from the total government expenditures in which the American statistics record them. Owing to this oversight, Y. Pokataev records government building expenditures twice and thus overestimates the "official data" by nearly 12 billion dollars. Incidentally, the entire estimation of the national income by final use, which Y. Pokataev refers to as "official," is in reality the product of his own labor; no such figures appear in the American statistics.

The material production of the US is consumed not only at home but abroad too. Nor is the material consumption

the country limited to the national product of the US
one. Hence, in estimating the material production by final
se, the foreign trade and freight transportation balance
ust be taken into account. Official data on the exports and
nports of goods in money terms make it possible to de-
rmine the net sales of American goods abroad. As for the
lue of foreign freight transportation, it was not accounted
eparately, except for the post-war years, and used to be
cluded in the value of all US foreign transportation. It is
npossible on the basis of the data published to single it
it of the total sum. But inasmuch as the value of the
eight transportation services amounts to about 90% of all
S foreign transportation costs — which before the war
ere less than half a per cent of the value of the gross na-
onal product of the US — the balance of receipts and pay-
ents on all US foreign transportation may be taken as
qual in these years to the balance of sales and purchases
freight transportation services. The absolute distortion
ere will be so insignificant that it may be ignored.

Should Indirect Taxes Be Included in the US National Income ?

We have thus revealed all the elements of the final out-
it of material production in the US. Summed up, they con-
st of the national income plus indirect taxes and depreci-
ion. Indirect taxes are an element of double counting
hich changes independently of the size of the national in-
me.

Y. Pokataev, in determining the national income, does not
xclude indirect taxes from the final product calculated in
oney terms. On this question he supports the view of M.
olganov, who regards national income as the sum not only
basic incomes but also of indirect taxes. Since Y. Poka-
ev fails to adduce any arguments of his own in favor of
is contention and refers only to Kolganov, we shall turn
the arguments of the latter.

"Let us suppose," writes M. Kolganov, "that the national
come prior to the introduction of excise duties was equal
100 units, including: wages, 50 units and capitalist
ofits, 50 units (hence wages and profits cover all the
sic incomes V+M, i.e., profits here mean all incomes re-
ived from surplus value, since otherwise their sum could
t be equal to the national income — M. G.). With the in-
oduction of excise duties amounting to, say, 25 units,
ree-fourths of which fall on the workers' income and one-
urth on the incomes of the exploiters, and with the conse-
ent rise of prices, the national income will be equal to
5 units; as regards wages and profits, their nominal val-
will remain unchanged (an unrealistic assumption: the
minal size of the national income cannot differ from the
tal nominal sum of basic incomes V+M, because this sum
nounts to the national income in current prices — M. G.),
though in reality wages dropped by 15 units and profits
5 units. As a new element of national income, along with
ages and profits, we now have excise duties amounting to
units in current prices." (4)

In other words, according to Kolganov, the nominal sum
wages and profits, by which he means all basic incomes
M, with the introduction of excise duties remains equal
100 units, while the national income increases to 125
its, i.e., in current prices the national income exceeds
e sum of all basic incomes by the amount of indirect
xes. On this basis he draws the conclusion that in calcu-
ting national income the excise duties should be added to
e basic incomes.

It is not difficult to notice that this conclusion is a re-
lt of confusion of basic incomes with derivative incomes. M. Kolganov fails to take into account the fact that indirect taxes have their source in basic incomes and are part of the latter instead of being "a new element of national income." Indirect taxes are not formed independently of the basic incomes, as is the case in Kolganov's example, but are paid by customers precisely out of these incomes. If the sum of wages and profits in nominal terms, after the introduction of indirect taxes, is still 100 units, the size of the national income cannot change either and must remain at 100 units, since indirect taxes are paid out of wages and profits. National income can never be either less or more than the total sum of basic incomes. Hence, to treat indirect taxes as "a new element of national income" is to overestimate the real size of the national income and to make it dependent upon changes in direct taxation.

It is curious that a strong argument against Kolganov's conclusion was adduced by his defender, Y. Pokataev, himself. In reply to a remark by V. Kudrov that inclusion of indirect taxes in national income makes the latter dependent upon changes in indirect taxation, Y. Pokataev wrote that in the event of an increase or decrease in indirect taxes, "only a redistribution of values created would take place... without affecting the size of the national income." (5) By this statement Y. Pokataev involuntarily knocked the ground from under Kolganov's argument. Indeed, if indirect taxes do not constitute an independent element of national income but only an instrument for the redistribution of values created without affecting the size of the national income, there is no need to include them in the total sum of national income.

Indirect taxes affect the nominal size of the national income in quite a different way than, say, an excessive issue of paper money. Under the influence of indirect taxes the basic incomes, and therefore also the national income in nominal terms, do not actually change. But an inflationary rise of prices leads to a proportional increase of the nominal sum of basic incomes and, therefore, also of the nominal size of the national income, although in the process a part of the incomes of the workers is redistributed in favor of the exploiting classes.

As regards Kolganov's assertion that with the exclusion of indirect taxes from the total sum of national income the prices in which it is calculated remain unknown, the answer is that the calculation is made on the basis of market prices with indirect taxes excluded. Incidentally, in the US a substantial part of indirect taxes does not enter the selling prices of goods and is collected from the customers separately.

It is highly significant that Y. Pokataev himself contradicts the viewpoint of M. Kolganov. Thus, he refrains from including indirect taxes in the national income, which he calculates by the sectors in which it is realized, although it is precisely here that M. Kolganov considers it necessary to add the excise duties to the total sum of national income. Were Pokataev to include indirect taxes in the estimation of national income by the sectors in which it is realized, the discrepancy between the results of the two methods of computation described by him would be very substantial.

That is why we cannot agree with the viewpoint of M. Kolganov and Y. Pokataev and consider it necessary to exclude indirect taxes from the total sum of national income.

An Assessment of Real Depreciation in the USA

To determine the size of the national income we must exclude from the value of the final product the entire sum of depreciation.

American statistics greatly overestimate the cost of replacement for wear and tear of fixed capital. In addition to depreciation, this item includes in it the cost of replacement of accidental losses of fixed capital and investments, which are treated as current expenses. Even US government publications admit that "the treatment of such expenses as replacements of fixed capital aims at concealing profits from taxation." (6)

Nor is it possible to use the official depreciation data. Depreciation represents the sum of money required to renew the value of the wear and tear of fixed capital. What is meant is the fixed capital actually participating in the process of material production. But American statistics, ignoring the difference between productive and unproductive spheres, include in the depreciation of fixed capital the wear and tear on dwellings and other buildings and property which do not participate in production.

Besides, the fixed capital replacement fund is greatly exaggerated by overstatement of the depreciation rates. In American practice the depreciation rates do not fully reflect the real wear and tear of capital equipment, but are fixed by legislation in the interests of the capitalist monopolies. Overstatement of depreciation rates serves as an important factor in helping to conceal profits from taxation.

Obviously, data containing such extensive distortions cannot serve as a correct indication of the depreciation of fixed assets. But Y. Pokataev uses this data without any correction, which leads to the national income being underestimated by many billions of dollars.

Lack of appropriate statistics makes it impossible for us to remove from the official depreciation total the indicated elements of surplus value. However, a rough estimation of the real value of depreciation of fixed capital in the spher of material production may be made on the basis of the depreciation data available for the US manufacturing industries. This data has the advantage that it does not cover the depreciation of the so-called non-productive capital assets. The share of depreciation in the value of the fina product of manufacturing industry is taken by us tentatively as being equal to the share of depreciation in the final product of all spheres of material production. This assumption is justified by the fact that the share of manufacturing industry in the total depreciation charges of the pr duction sphere is approximately equal to its share in the value of the entire final product in the material sphere. Thus, for example, the manufacturing corporations account for more than 60% of depreciation charges of all co porations in the sphere of production in the US, which onl slightly exceeds the share of industry in the final materia output of the country, which fluctuates between 51% and 6 (see Tables 3 and 4).

To determine the value of the final output of the manufa turing industries, we shall make use of the official data o the so-called "value added," which is defined as the diffe ence between the proceeds from the sale of industrial goo to traders and the cost of the means of production used u (exclusive of depreciation of fixed capital). The "value added" is less than the market value of the final product b that part of the newly created value which industrial capital concedes to commercial capital. Hence, to find the va ue of the final product of manufacturing industry, it is necessary to add to the "value added" in this sphere the surplus value turned over by the industrialists to comme cial capital. (7)

Table 3

Share of Depreciation Charges in Value of Final Product of Manufacturing Industry*

	Years									
	1929	1931	1933	1937	1947	1949	1950	1953	1954	1955
Final product** (billion dollars)	36.1	22.3	16.3	30.2	90.8	92.4	108.9	145.0	140.6	157.6
Depreciation (official figures in billion dollars)	1.7	1.5	1.3	1.6	3.6	4.5	4.8	6.1	6.4	6.7
Share of depreciation in value of final product (%)	4.7	6.7	8.0	5.3	4.0	4.9	4.4	4.2	4.6	4.3

* Based on data in Statistical Abstract of the United States, 1958; Survey of Current Business, Nov. 1956, p.11.

** Final product = the "value added" plus the surplus value yielded to commercial capital.

As may be seen from the table, the share of depreciation in the value of the final product of industry rises sharply during depressions (when a large part of industrial capacity remains idle) and drops during periods of expansion, when industry is more fully employed. These fluctuations offer clear proof that the depreciation charges are overstated by having part of the idle fixed capital included in them. Such distortions are reduced to a minimum in years when depreciation charges constitute the smallest share in the value of the final product, the low share of depreciation in the value of a product testifying to efficient use of the industrial equipment. The lowest (4%) percentage of depreciation in the value of the final product of US manufacturing industry was recorded in 1947. This percentage, which most accurately reflects the real wear and tear of fixed capital, is taken by us as an indication c the share of depreciation in the value of the final material product in the US for the entire period under consider tion. The depreciation data thus obtained will be only slightly above the real depreciation, as we have only partially eliminated the overstatement of the actual depreciation charges. In 1947 the depreciation charges were also overstated, though not as much as in other years.

By subtracting from the final material product 4% of it value, we will obtain the real size of the national income.

An estimate of the US national income in various years appears as follows (see Table 4 which is shown on the fo lowing page).

Table 4

Derivation of Actual US National Income in Current Prices*
(million dollars)

	1929	1947	1950	1955
1. Durable goods	9,212	20,593	28,608	35,649
2. Nondurable goods (exclusive of expenditures abroad by US government and military personnel)	37,656	92,622	99,942	124,654
3. Material production under "Services"	4,004	8,473	10,014	14,385
4. New construction, equipment and changes in inventories	16,231	29,705	51,219	60,605
5. Government purchases of goods	4,007	11,998	17,828	39,216
6. Foreign trade balance and net freight receipts	765	10,707	1,224	3,084
7. Minus indirect taxes	1,003	10,905	13,053	16,965
8. Final product (1+2+3+4+5+6-7)	70,942	163,293	195,782	260,628
9. Minus depreciation (4% of value of final material product)	2,838	6,532	7,831	10,425
10. National income (8-9)	68,104	156,761	187,951	250,203

* Based on data in National Income 1954 Edition... and Balance of Payments, 1952, 1953.

Dynamics of the Physical Volume of US National Income

The nominal expression of the national income under con- tions of rapidly changing prices does not furnish any ba- s for judging either its real value or its real rate of rowth. To obtain a picture of the real dynamics of nation- income, it must be expressed in comparable prices.

The US Department of Commerce publishes price de- tors for the period beginning with 1929 to express the lue of the gross national product and its components in 47 prices. These deflators may also be applied for con- rsion into unchanging values of the nominal size of the tional income calculated by the method of final use.

Official American statistics estimate the country's gross tional product since 1929 only. For this reason we have mputed the US national income in earlier years with the d of data in Simon Kuznets' book National Product Since 69. Our task was facilitated by the fact that Kuznets on e whole uses the same method of computing the gross na- nal product as does the US Department of Commerce. nsequently the defects in official American statistics scribed above apply in considerable measure to Kuznets' ures too. At the same time the assessment and classifi- tion of primary data in Kuznets' computations differ to me extent from those of the Department of Commerce. is essentially explains the slight divergence in summary ures for 1929-1938 found in these sources.

The gross national product as computed by Kuznets rep- sents the sum of consumption expenditures and gross in- stment. Consumption expenditures, in turn, are com- sed of payments for goods and services. Payments for rvices include payments of direct taxes by the population. contrast to the practice of the Department of Commerce, znets regards the government not as the buyer of final oducts but as the seller of services, the value of which is uated to the sum of direct individual taxes.

Gross investment, apart from expenditures on construction, equipment and changing inventories, includes the surplus of deficit in the balance of payments. In the estimation of the gross national product by the "peace-time" method, government expenditures on war materials are also included in this section. Supporting Keynes' theory of the compensating role of military production, Kuznets regards peace-time military production as capital which is essential to the maintenance or increase of consumer goods production.

All the components of the gross national product listed above, with the exception of services, may be used without correction as an indication of the volume of the final material product in the US.

Lacking direct data, we estimate the value of material services and material expenditures involved in nonmaterial services by their share in the value of all services. Between 1929 and 1956 the share of material production in the services division gradually rose from 12.5% to 15%. This tendency had manifested itself even more clearly in earlier years, since it was then that material services first originated and became widespread, particularly the use of electricity, gas, running water, repair of automobiles and radios, etc. We shall therefore not underestimate the final value of the material product if we assume the average share of material production in the services division before 1929 to have been equal to 10%.

The same method is used to determine the real national income for other years. Because of lack of primary statistical data for individual years in the 1869-1918 period, all of Kuznets' computations for this period represent arithmetical averages for decades.

We have thus derived two independent statistical series, one reflecting the dynamics of the physical volume of national income for the period 1869-1929 in 1929 prices, the other its dynamics for the period 1929-1956 in 1947 prices. The fact that the national income is expressed in different prices makes the two series noncomparable. To get a

Table 5

An Estimate of the Actual Volume of US National Income Based on S. Kuznets' Data*

1. Consumer goods expenditures	48.6
2. Material products under "Services" (10% of total value of "private" services)	2.5
3. Gross investment	20.7
4. Final material product	71.8
5. Minus indirect taxes	1.0
6. Final material product without indirect taxes	70.8
7. Minus depreciation (4% of value of final material product)	2.8
8. National income	68.0

* Based on data in S. Kuznets' National Product Since 1869, New York, 1946.

continuous series serving as a uniform indication of the dynamics of national income for the whole of the 1869-1956 period, the two series must be converted to an index form. In this case the data for 1929, the final year of the first series and the initial year of the second series, is taken as 100. A complete series of indices built up in this manner will show most clearly the dynamics of the physical volume of the US national income for almost 90 years.

As may be seen from Table 6, it took the United States almost 60 years (from 1869-1879 to 1929), including the years of its most rapid economic growth, to increase tenfold the physical volume of its national income prevailing in the early 'seventies of the last century. At the same time it is known that the Soviet Union succeeded in achieving a similar increase over a comparable volume of national income (8) between 1926 and 1950, i.e., in 24 years. Actually, a tenfold increase of national income was achieved by the Soviet Union in 17 years, since seven years were spent on the war with fascist Germany and the rehabilitation of the war-devastated economy. A mere comparison of these figures will show that the rate of growth of the national income in the USSR exceeds by three times the highest rates ever recorded by the capitalist economy of the US.

The fact that the Soviet Union has increased the size of its national income from a level equal to that of the US in the '70s of the last century several times faster than the United States did completely destroys the claims of bourgeois economists that the rapid growth of USSR national income is due to its originally low level rather than to the advantages of the socialist economic system.

The Soviet Union's superiority in the rate of economic progress creates a concrete basis for its catching up and overtaking the US in national income.

Table 6

Dynamics of Physical Volume of US National Income* (1869-1956)

Years	Physical volume of national income (in 1929 prices, billion dollars)	Index of physical volume of nationa income (1929=10
1869-1878	6.9	10.2
1874-1883	10.4	15.3
1879-1888	14.1	20.7
1884-1893	17.0	25.0
1889-1898	19.9	29.2
1894-1903	24.4	35.9
1899-1908	30.1	44.3
1904-1913	36.0	53.0
1909-1918	40.9	60.2
1914-1923	45.6	67.1
1919	47.3	69.5
1920	46.8	68.8
1921	43.0	63.2
1922	47.8	70.3
1923	54.5	80.1
1924	54.4	80.0
1925	59.3	86.9
1926	62.2	91.5
1927	62.7	92.2
1928	62.5	91.9
1929	68.0	100.0
	Physical volume of national income (in 1947 prices, billion dollars)	
1929	95.2	100.0
1930	82.6	86.8
1931	74.7	78.5
1932	58.8	61.8
1933	52.3	54.9
1934	63.5	66.7
1935	75.8	79.6
1936	86.7	91.1
1937	96.9	101.8
1938	89.7	94.2
1939	98.6	103.6
1940	111.0	116.0
1941	135.6	142.4
1942	158.9	166.9
1943	178.4	187.4
1944	187.8	197.3
1945	170.7	179.3
1946	156.0	163.9
1947	156.8	164.7
1948	165.2	173.5
1949	160.1	168.2
1950	177.2	186.1
1951	188.3	197.8
1952	193.3	203.0
1953	203.2	213.4
1954	195.9	205.8
1955	213.6	224.4
1956	218.2	229.2

* Based on data in National Income 1954 Edition...; S. Ku nets, National Product Since 1869; Survey of Current Business, July 1957 and November 1956; Statistical Abstract of the United States, 1958; Economic Almanac, 1958; Balance of Payments.

Footnotes

(1) For instance, among the incomes of this or that sphere are included all incomes of persons or firms operating in this sphere, including incomes from securities issued by companies in other spheres.

(2) Net foreign investments represent, in essence, the surplus in balance of payments of the US.

(3) The change in business inventories between the beginning and end of the year, recorded in the statistics of

e gross national product, cannot serve as an indication of e total materials used up from the supplies of past years, this change alone cannot determine either the minuend or e subtrahend.

(4) Voprosy Ekonomiki, 1955, No. 11, p. 100.

(5) Mirovaia Ekonomika i Mezhdunarodnye Otnosheniia, 59, No. 5, p. 76.

(6) National Income, 1954 Edition ..., p. 152. [Translator's te: This is retranslated from the Russian].

(7) The surplus value given over by the manufactures to mmercial capital is estimated on the basis of the fact that e share of manufacturing industry in surplus value yielded by all industrial capital to trading capital must be approximately equal to its share in the final material product.

(8) In 1926, after rebuilding the economy ruined by the Civil War, the Soviet Union exceeded the 1913 national income level (by 3%). According to calculations made by the Russian economist Prokopovich, in 1913 Russia's national income was one-fifth that of the US. Inasmuch as the national income of the US in the early '70s of the past century was less than one-fifth its national income in 1913, the national income of the USSR in 1926 was approximately equal to the national income of the US at the beginning of the 1870s.

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no accident that products of local industry and consumer -operatives account for a large share of the surplus comodity stocks available on the market.

The circulation of a number of commodities is also rerded by price discrepancies between related and interangeable goods. The target figures of the USSR economic evelopment plan for 1959-1965, therefore, provide for a reljustment of price-formation policies and elimination of rice discrepancies. We must see to it that the prices of mmodities are more in accord with the socially necessary sts of production and that the economically unjustified differences between the prices of similar and interchangeable products are abolished.

An efficient price system is of great importance in the fulfillment of the output plan not only in volume but in assortment too, and stimulates the rational organization of production, higher quality and lower costs of production, and a rational structure of consumption. The planned utilization of the law of value by the socialist state plays an important part in accelerating the rate of economic development of our country.

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rovidence, Brown University Press, 1958.

(4) The American economist H. Wallach writes: "Stabily of the economy implies two tasks: first, to defend it from epression and unemployment, and second, to avoid inflation. e are more afraid of a depression than of inflation, and is is as it should be." See The New York Times Magazine, anuary 20, 1957.

(5) The Economist, June 1, 1957.

(6) The New York Times Magazine, November 4, 1956.

(7) G. L. Bach, op. cit., p. 36.

(8) M. Bronfenbrenner, "Some Neglected Implications of ecular Inflation," Post-Keynesian Economics, edited by K. Kurihara, Rutgers University Press, 1954, p. 31.

(9) U.S. News and World Report, December 26, 1958.

(10) Ibid., November 7, 1958.

(11) See Bulletin of the Oxford University Institute of tatistics, November 1957.

(12) Ibid., p. 329.

(13) World Economic Survey 1957, p. 59.

(14) One of the services rendered by the authors of this survey is that, in seeking to demonstrate the absence of "aggregate demand inflation" in the phase of expansion in the fifties, they clearly prove that in this phase, too, there was neither full employment nor full utilization of production capacities. This knocks the ground from under the favorite thesis of bourgeois economists, that in these days "full employment" is the main cause of inflation.

(15) World Economic Survey 1957, p. 59.

(16) K. Marx and F. Engels, Collected Works, Russian edition, Vol. XIII, Part I, p. 148.

(17) For example, Professor E. Y. Bregel writes that "at first there is a rise in commodity prices, and only afterwards do workers launch a struggle for higher wages." See Voprosy Ekonomiki, 1959, No. 4, p. 99.

(18) Ibid., p. 141.

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